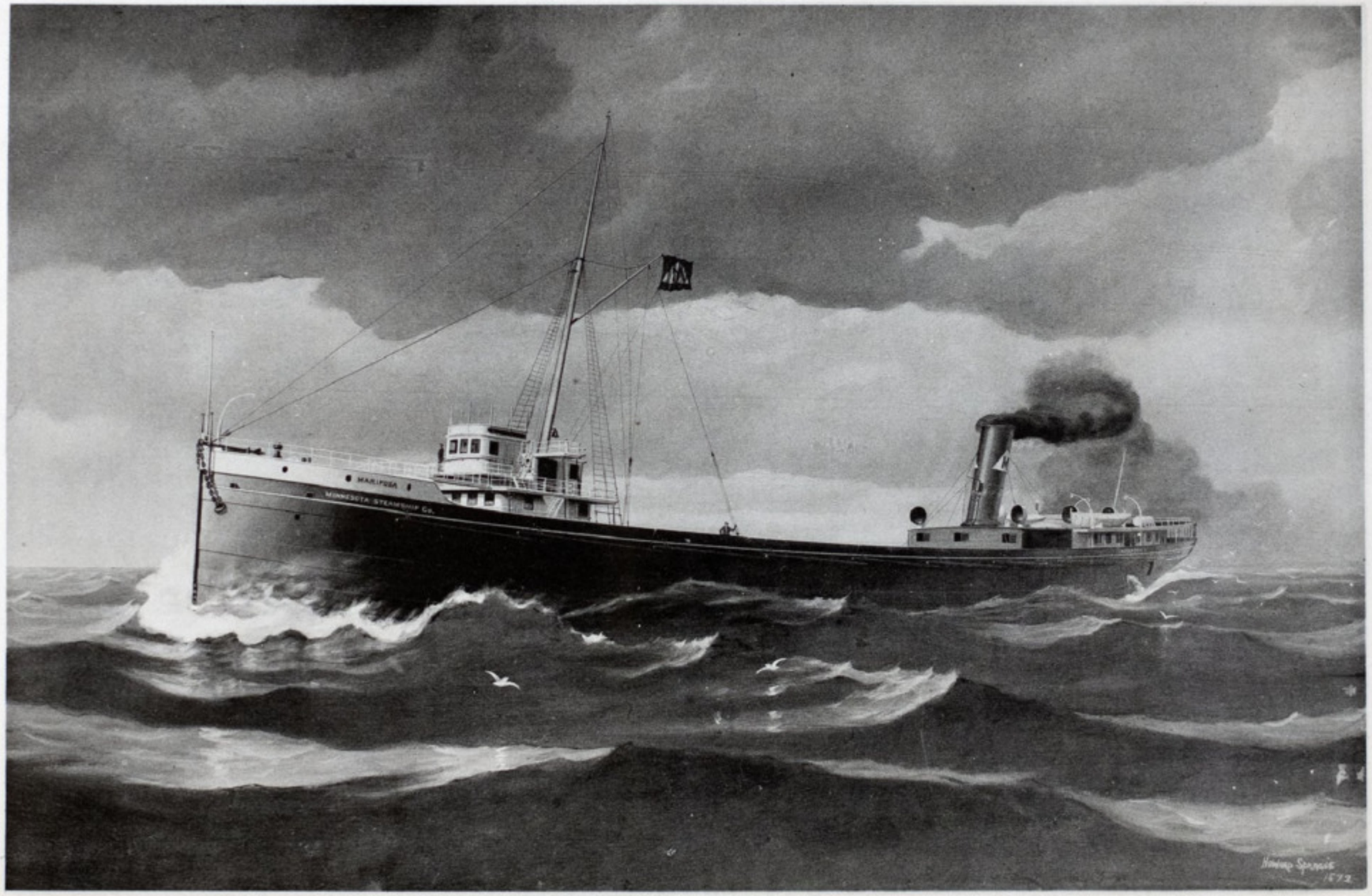
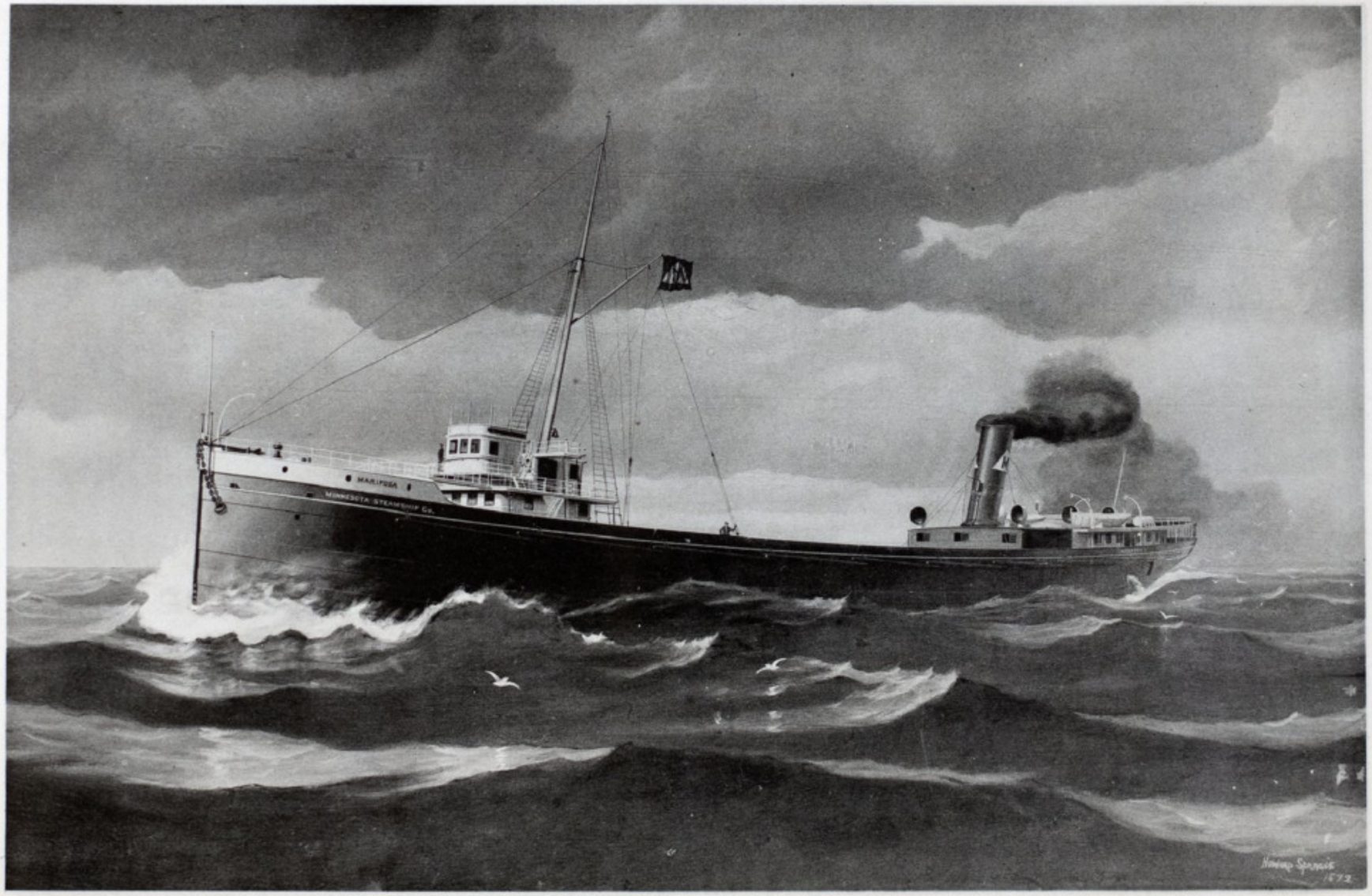


SUPPLEMENT TO THE MARINE RECORD, CLEVELAND, OHIO.

BUILT BY THE GLOBE IRON WORKS CO.

MARIPOSA.

(MINNESOTA S. S. CO.)



SUPPLEMENT TO THE MARINE RECORD, CLEVELAND, OHIO.

BUILT BY THE GLOBE IRON WORKS CO.

MARIPOSA.

(MINNESOTA S. S. CO.)

THE MARINE RECORD.

DEVOTED TO COMMERCE, ENGINEERING AND SCIENCE.

ESTABLISHED 1878.

VOL. XV. CLEVELAND, OHIO, AUGUST 25, 1892. NO. 35

LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interest of Lake Carriers and improve the character of the service rendered to the public.

President: M. A. BRADLEY, - - Cleveland.

Vice-Presidents:

JOHN G. KEITH, -	Chicago.	JAMES W. MILLEN, -	Detroit.
W. S. BRAINARD, -	Toledo.	F. J. FIRTH, -	Erie.
R. P. FITZGERALD, -	Milwaukee.	THOMAS WILSON, -	Cleveland.
ALEXANDER McDOUGALL,	Duluth.	P. P. MILLER, -	Buffalo.

Secretary: CHARLES H. KEEP, - Buffalo.
Treasurer: GEO. P. McKAY, - - Cleveland.
Counsel: HARVEY D. GOULDER, - Cleveland.

Board of Managers.

F. W. Baldwin, -	Ogdensburg.	Thomas Wilson, -	Cleveland.
F. J. Firth, -	Erie.	H. M. Bradley, -	Cleveland.
W. E. Chapman, -	Sandusky.	Jas. Corrigan, -	Cleveland.
C. T. Morley, -	Marine City.	H. M. Hanna, -	Cleveland.
Alvin Neal, - -	Port Huron.	G. P. McKay, -	Cleveland.
James Davidson, -	Bay City.	H. G. Dalton, -	Cleveland.
Charles A. Eddy, -	Bay City.	Harvey H. Brown, -	Cleveland.
Alexander McDougal, -	Duluth.	J. W. Moore, -	Cleveland.
F. W. Gilchrist, -	Alpena.	B. L. Pennington, -	Cleveland.
J. C. Gilchrist, -	Vermillion.	Henry A. Hawgood, -	Cleveland.
J. L. Higgie, -	Chicago.	W. C. Richardson, -	Cleveland.
Jesse Spaulding, -	Chicago.	S. D. Caldwell, -	Buffalo.
J. S. Dunham, -	Chicago.	Peter P. Miller, -	Buffalo.
John Keith, - -	Chicago.	E. T. Evans, -	Buffalo.
Joseph Austrian -	Chicago.	James Ash, -	Buffalo.
David Vance, -	Milwaukee.	W. Bullard, -	Buffalo.
R. P. Fitzgerald, -	Milwaukee.	J. J. H. Brown, -	Buffalo.
W. Livingstone, Jr., -	Detroit.	W. P. Henry, -	Buffalo.
James Millen, -	Detroit.	John Gordon, -	Buffalo.
David Carter, - -	Detroit.	W. S. Brainard, -	Toledo.
E. M. Peck, -	Detroit.	L. S. Sullivan, -	Toledo.
D. C. Whitney, - -	Detroit.	A. W. Colton, -	Toledo.
H. S. Hodge, - -	Detroit.		

CLEVELAND, O.

The trial trip of the Mariposa on Tuesday afternoon was a perfect success. Steam was run up to 120 pounds, and at 76 revolutions her speed was about 14 miles per hour. At that rate little or no vibration was felt. Her main engines and auxiliary machinery worked satisfactory and after a three hours' test, the Globe Iron Works Co. turned her over to her owners. Among those present on the trial trip were Col. Pickands, J. J. Dalton and Mr. Colby, representing the owners; general manager, John F. Pankhurst; Mr. John H. Smith, superintendent of shipyard; Robert Hays, master mechanic; Mr. Hambleton, of the boiler shop department, and Douglas Brew, engine builder, representing the builders. The guests were Mr. L. C. Hanna, Mr. Ernest Janson, superintendent of construction for the U. S. Lighthouse Board; Mr. H. J. Hawgood, vessel owner; Mr. Charles Bradley Calder, shore engineer for the Menominee and Mutual lines; Mr. Fleming, Capt. C. E. Benham, Capt. William Mack, Capt. Kennedy, and a large number of ladies, who were gallantly escorted and taken under convoy by Mr. Fleming.

The steel steamer Western Reserve, built by the Cleveland Ship Building Co., to the order of Capt. Peter Minch, furnishes an interesting record in the performances of her engines. It is learned that during the three seasons she has been running her engines have never been stopped or even slowed down for any cause, except in answer to bells on navigational signals from Capt. Myers or his officers. During all of this time chief engineer William Seaman says that he has had the pleasure of handling the most perfect mechanism that he ever desires to be shipmates with. This feature, no doubt accounts for the success and regularity of this large steamer's trips, although Capt. William Gerlach, in the same line, steamer Onoko, (the first iron steamer built at this port) seems to keep level with the new boat on the number of trips, and receives, perhaps, a little better dispatch in port.

Mr. C. H. Bradley, a vessel owner of Bay City, Mich., writing to the Chase Machine Co., states that the Chase automatic fog whistle machine fitted on his new steamer, the C. H. Bradley, recently built by F. W. Wheeler & Co., of W. Bay City, is simply a perfect piece of mechanism, and an invention for ships use which he unqualifiedly endorses as being difficult to get along without. The automatic fog whistle machine is recommended by the Board of Supervising Inspectors of Steam Vessels, works positively and as sure as the engines turn over, giving the regulation fog whistle signals when the steamer is underway, and therefore insuring attention to this important feature when navigating in thick or foggy weather.

Mrs. Emma B. Gedehon has undergone a critical technical examination this week at the offices of the U. S. local inspectors and the test has resulted in the issuance to her of a special pilots license to take charge of the steamyacht Emma in waters contiguous to this port. The lady pilot is a daughter of ex-councilman Kist, Bavarian House, River St., and is undoubtedly an expert in the profession. Wonder why the lady should be limited to the Emma! Does an equal tonnage or size require less or more qualifications? Our lady pilot is eligible to command boats of similar tonnage, or if not, the rules of the steamboat inspection service are away off.

Running the "Soo" river at night is very risky work, and according to the statement of a prominent master and pilot, good light is required, and the best sort of daylight at that, at least, such is what he wants to get along safely. Two steamers ashore at the foot of Sugar Island is surely enough for one night's work. The City of Duluth and Missonla will likely go slow in that vicinity in the future, and prefer natural to artificial light when navigating the tortuous channels of the "Soo" river.

An important collision conference met in the office of Harvey D. Goulder, on Wednesday, to settle out of court the Susan B. Peck—George W. Adams case. There were present C. A. McDonald and Eugene Harbeck, of Chicago; W. I. Sandrock and Captain John Green, of Buffalo; T. H. Canfield of Detroit, and Mr. John Corrigan of this city. The underwriters will consider a proposition made by the vessel owners for a settlement in full, and this will likely dispose of the case.

Capt. C. C. Goodwin, keeper of the local life saving station is a candidate for promotion to the grade of superintendent, whoever S. I. Kimball may appoint it is to be hoped that he will promote one of the present officers of the service. Capt. Goodwin has the best wishes of all local interests in his candidacy for the honor to which his long and faithful service so justly entitles him.

Mr. T. F. Newman, general agent of the Detroit and Cleveland Steam Navigation Co., has tendered his resignation, to take effect on January 1. Mr. Newman resigns to give his entire attention to his duties as general manager of the Cleveland & Buffalo Transportation Co., and the work involved in putting the new line in working order.

The U. S. Light-House Tender Columbine, built by the Globe Iron Works Co., for service on the Pacific coast is now nearly ready for sea, and will leave port next week. The special pontoons prepared by Mr. John Hall of Ogdensburg, N. Y. will be used in taking her down the St. Lawrence system of canals.

The Addison V. Armour yacht, which arrived at this port for repairs a few weeks ago from Poughkeepsie, N. Y., under the name of No. 12, has been rechristened the Gryphon. Her license extends to the Mississippi River, and a trip down the "father of waters" is contemplated by her millionaire owner this fall.

The Chase Automatic fog whistle machine fitted on the new steamer Mariposa of the Minnesota Line, was tested during her trial trip on Tuesday. As usual, the machine gave perfect satisfaction to the engineer, master and owners.

CHICAGO NEWS LETTER.

Special Correspondence to the Marine Record.

Albert W. Goodrich, President of the Goodrich Transportation Co., and his friend, E. Burton Holmes, left Chicago last Thursday night on the N. W. R. R. for St. Paul; thence to Manitoba, to connect with the Pacific R. R. for Vancouver, B. C., where they will take the steamer Empress, of India, for Yokohama, Japan and China, and probably a trip around the world. We wish them a very pleasant journey and a safe return.

The schooner Ostrich has been sold by Higgie & Walsh, vessel agents for Miller Brothers, Kenosha, to John McKay, Milwaukee; consideration, $1,000.

At Miller Bros'. shipyard the tug J. V. Taylor was in dock for recalking, the schooner Live Oak for stopping leak, tug Robert Tarrant and steam barge H. D. Root for new wheels; sloop yacht Scorpion to have a leak stopped; the steam barge White and Friant had her stern bearing fixed; the barge J. T. Johnson had her bottom calked; the schooners Winnie Wing, Guido and L. B. Shepard had leaks stopped; the steamer Favorite received repairs to shoe and stern bearing, and some calking; the tug Meteor was at the derrick and received repairs to her stern and some calking; the schooner Alice received a new mizenmast; the schooner Goodman a new mainmast; the steamer Robert C. Went a new mast; the steamer John F. Eddy, repairs to her cabin.

The Anchor Line fine new steel steamer Schuylkill arrived here from Erie with 1,400 tons of merchandise at 9.25 Monday night, having left Erie at 11 o'clock Friday night. She was built by the Globe Works at Cleveland, and her hull, machinery and outfit is of the very best. She has a good looking bow and stern, and if she had some sheer, would be a handsome steamer, but without it she looks, well, not handsome. Capt. John Doherty is in command; James Nilan, 1st mate; Thomas Bell, 2nd mate; John Jordan, chief engineer; John Hayward, assistant engineer. She consumed about 70 tons of coal on her run up, about one ton per hour, which is considered light on fuel. She will be a large carrier.

The passenger steamer Nebraska arrived here Monday morning from Milwaukee, where she had undergone considerable alterations and improvements to fit her for the passenger service in which she will be engaged in the future.

The splendid new steel steamer Maritana, recently built by the Chicago Ship Building Co., arrived here from South Chicago on her trial trip just before 6 p. m. last Thursday evening. She had on board some 200 invited guests, who enjoyed a royal time, and partook of the splendid refreshments supplied on board, to which they were invited by Manager W. I. Babcock, who proved himself an excellent host, and used his utmost endeavors to make all on board happy. The dimensions of the Maritana have been given before in THE RECORD. She is the largest freight steamer at present afloat on the lakes, and is a grand specimen of marine architecture in building, machinery and outfit, all modern improvements having been placed upon her. Capt. Frank D. Root is in command; William Holly, 1st mate; George Waterberry, chief engineer; Isaac Brown, steward. Capt. George Simpson was on board, adjusting the steamer's compasses and went to Escanaba with her Saturday to complete his work. A telegram from Escanaba, dated August 22nd, gives the following: "The new steamship Maritana broke the big cargo record on the lakes to-day when she loaded 4,808 net tons of iron ore as her maiden cargo. She drew about 16 feet 6 inches. This cargo will be delivered at South Chicago, after which the Maritana will go on her regular trade to Lake Superior ports. The

Continued on page nine.

A RISE AND GREAT FALL OF TIDES ON THE GREAT LAKES.

A crude assertion of the existence of a periodic rise and fall in the waters of Green Bay—an arm of Lake Michigan, has been sent out by a correspondent residing at the extremity of that inlet; and while the statement bears several inaccuracies, it is of such direct importance as to deserve the closest attention from lake seamen.

The letter referred to is as follows: "It has been said there are no tides on the great lakes. Yet every seafaring man at the city of Green Bay says there are tides here. The Green Bay people are certain of the tides because they have seen them, and have been seeing them ever since they lived there. The tides come in the morning and evening, and are highest at 7 a. m. and 7 p. m. From 3 until 7 in the morning the tide gradually comes in. After that time it begins to recede, and is at its lowest point between 11 and 2:30. At the latter hour the evening tide commences, and it rises continuously until 7 in the evening, when it begins to recede. The height of the tide varies at times a trifle, but it is never less than five inches, and seldom over eight inches under ordinary circumstances. Heavily leaden boats of large size are detained frequently at this point during low tide waiting for the tide to come in. Captains are so certain that there is a tide that they will wait for some hours to take advantage of its movements before attempting to leave port.

If there is a tide in Green Bay then there is a tide on all the inland lakes. It may be too small to be measured, but it is there just the same. Green Bay is shaped not unlike the Bay of Fundy, where the tides on the Atlantic are compressed until they rise to enormous heights. It is not unreasonable to suppose that a tide of half an inch or an inch, from the wide stretch of waters east and west, reaching several hundred miles from Georgian Bay across Lake Huron, through the Straits of Mackinac, across the foot of Lake Michigan, and up the long, narrow bay, would be so compressed as to be at least perceptible. It would be impossble to measure so small a tide, and scientific men would be justified in denying altogether the existence of a lake tide. On Lake Superior the next longest stretch east and west of fresh water, there is no bay where the water would be compressed as it is here. The Lake Superior tide might even be less than that coming over the stretch of water from Georgian Bay here."

This semi-durinal periodic and permanent rise and fall, is simply incomprehensible, and it is to be regretted that no official tide-guage observations are at hand to verify such reports as the foregoing; in fact the lake sections are sadly deficient in the number of self-registering water gauges established considering the primal source of information which such appliances readily furnish for the computation of surface or tide-curves in connection with simultaneous barometer readings and the configuration of the coast line.

It is not by any means a simple problem to grasp the economy and characteristics of even the local features in tides, nor can any one man make himself thoroughly acquainted with local pecularities, without devoting more leisure and study to the subject than the average person can command.

However, there has been data enough secured to prove that the tides, speaking in the broad acceptation of the term, are very irregular in different parts of the world. Inasmuch as high water has been found at noon at a certain point during several days in succession. An excerpt from a scientific paper on tides states that on the European coasts of the North Atlantic the tides present in their main features an exceptional simplicity, two almost equally high waters, and two almost equally low waters in the twenty-four hours, with the regular fortnightly inequality of spring tides and neep tides due to the alternately conspiring and opposing actions of the moon and sun, and with large irregular variations produced by wind. In other places it has long been remarked that there is but one high water in the 24 hours at certain times of the month. Several other localities are celebrated for a great tidal rise amounting to 70 feet, and upwards. Captain Lecky in his admirable "Wrinkles in Practical Navigation" gives the range of tide in the open ocean at about four feet but for the inland seas as being almost insensible. Among the islands of the Pacific ocean the rise and fall is placed at from three to six feet, and the average in the Mediterranean at not to exceed 18 inches.

Lakes and inland seas being comparatively small, the attraction of the sun and the moon is nearly equal at both extremities, therefore their tides are insignificant. Close investigation backs up the theory that the magnitude of the tidal range depends upon the proportion the size of the lake bears or sea bears to the diameter of the earth; for instance, the existence of a tide in Lake Michigan has been proved by a series of observations made at Chicago in 1859. The average height of this tide is given as $1\frac{3}{4}$ inches; and the average time of high water as thirty minutes after the moon's transit. The length of Lake Michigan is 350 miles, or 1-23 of the earth's diameter; and its tide would thus be about 1-23 of that which prevails in mid-ocean. Again the length of the Mediterranean is 2,400 miles, or roughly $\frac{1}{3}$ of the diameter of the earth, which gives the average height of its tide as $\frac{1}{3}$ what it is in the open sea, and this is said to be confirmed by observation.

No language could be more devoid of technicalities and yet be pertinently clear than Captain Lecky's description of tides wherein he states that the tides are popularly attributed to the moon only, though really caused by the joint attraction of both sun and moon and it is due to this double influence being sometimes exerted in a contrary direction that we have the varying phases in the times and heights of high and low water. The general motion of the tides consists in an alternate vertical rise and fall and horizontal flow and ebb occupying an average period of half a lunar day or about 12 hours 25 minutes. This vertical movement is transmitted from place to place in the seas like an ever recurring series of very long and swift waves, therefore there are two tide waves at a fixed distance apart of 180° measured both in latitude and longitude and that they are constantly traveling round the earth from east to west with the influence of the moon $2\frac{1}{3}$ times more than that of the sun.

Thomson and Tait's "Natural Philosophy" on equilibrium theory of the tides, the authors state that: If we suppose the moon to be divided into two halves, and thus to be fixed on opposite sides of the earth, at distances each equal to the true moon's mean distance: the ellipticity of the disturbed terrestrial water-level would be 3 (2 x 60 x 300,000) or 1-12,000,000, and the whole difference of levels from highest to lowest would be about $1\frac{3}{4}$ feet.

The rise and fall of water at any point of the earth's surface we may now imagine to be produced by making these two disturbing bodies, (moon and anti-moon, as we may call it for brevity) revolve round the earth's axis once in the lunar twenty-four hours, with the line joining them always inclined to the earth's equator at an angle equal to the moon's declination. If we assume that at each moment the condition of the hydrostatic equilibrium is fulfilled, that is that the free liquid surface is perpendicular to the resultant force, we have what is called the "equilibrim theory of the tides."

But even on this equilibrium theory, the rise and fall at any place would be most falsely estimated if we were to take it, as we believe it is generally taken, as the rise and fall of the spheroidal surface that would bound the water were there no dry land (uncovered solid). To illustrate this statement, let us imagine the ocean to consist of two circular lakes, A and B, with their centres 90 degrees asunder, on the equator, communicating with one another by a narrow channel. In the course of the lunar twelve hours the level of lake A would rise and fall, and that of lake B would simultaneously fall and rise to maximum deviations from the mean level. If the areas of the two lakes were equal their tides would be equal, and would amount in each to about $\frac{1}{3}$ of a foot above and below the sea level: but not so if the areas were unequal. Thus if the diameter of the greater be but a small part of the earth's quadrant, not more, let us say, than 20 degrees, the amounts of the rise and fall in the two lakes will be inversely as their areas to a close degree of approximation. For instance, if the diameter of B be only 1-10 of the diameter of A, the rise and fall in A would be scarcely sensible while the level of B will rise and fall by about $1\frac{3}{4}$ feet above and below its mean just as the rise and fall of level in the open cistern of an ordinary barometer is but small in comparison with fall and rise in the tube. Or if there be two large lakes, A, A', at opposite extremities of an equatorial diameter, two small ones, B, B' at two ends of the equatorial diameter perpendicular to that one, and two small lakes C, C' at two ends of the polar axis, the largest of these being, however, still supposed to extend over only a small portion of the earth's curvature and all the six lakes communicate with one another freely by canals, or underground tunnels there will be no sensible tides in the lakes A and A'. In B and B' there will be high water of $1\frac{3}{4}$ feet above the mean level when the moon or anti-moon is in the zenith and low water of $1\frac{3}{4}$ feet below mean when the moon is rising or setting and at C and C' there will be tides rising and falling $\frac{1}{3}$ of a foot above and below the mean, the time of low water being when the moon or anti-moon is in the meridian of A, and of high waters when they are on the horizen of A. The simplest way of viewing the case for the extreme circumstances we have now supposed is, first, to consider the spheroidal surface that would bound the water at any moment if there were no dry land, and then to imagine this whole surface lowered or elevated all round by the amount required to keep the height at A and A' invariable. Or if there be a large lake A in any part of the earth, communicating by canals with small lakes over various parts of the surface, having in all but a small area of water in comparison with that of A, the tides in any of these will be found by drawing a spheroidal surface of $1\frac{3}{4}$ feet difference between greatest and least radius, and without disturbing its centre adding or subtracting from each radius such a length, the same for all as shall do away with rise or fall at A.

It is however, only on the extreme supposition we have made, of one water area much larger than all the others taken together, but yet itself covering only a small part of the earth's curvature, that the rise and fall can be done away with nearly altogether in one place, and doubled in another.

THE War Department has issued the following order: "First Lieutenant Wm. L. Sibert is relieved from duty at Bowling Green, Ky., under the orders of Major Daniel W. Lockwood, corps of engineers, and will proceed to and take a station at Detroit, Mich., reporting in person to Colonel Orlando M. Poe, corps of engineers, for duty, under his immediate orders."

As an indication of the occasional value of cargoes carried on the lakes, we note that the propeller Norwalk and consort Lozen, reached Buffalo from Lake Superior a few days ago, with a cargo of copper in various conditions of purity worth $650,000, These consignments are always well covered by insurance, although not a pound has been lost through a vessel casualty for many years.

RECIPROCAL CANAL TOLLS.

INSTRUCTIONS TO COLLECTORS OF CUSTOMS.

Acting Secretary Spaulding of the treasury department has issued a circular letter of instructions to collectors of customs, under the act relating to tolls in Canadian vessels at the St. Mary's falls canal, which provides that the money shall be collected under regulations to be established by the secretary of the treasury. He further directs as follows: On the passage through the canal at St. Mary's falls in your district, from and after the 1st prox., of any vessel with cargo, you will exact tolls as provided for above. But no tolls will be charged or collected as regards freight carried to and landed at Ogdedsburg or any port west of Ogdensburg and south of a line drawn from the northern boundry of the state of New York through the St. Lawrence river, the great lakes and their connecting channels to the northern boundry of the state of Minnesota.

The master of every such vessel will be required to furnish a sworn statement, substantially in the form of a manifest, showing the name of the vessel, its destination, the name of the master and the number of tons and kind of merchandise carried. If the destination be such as to exempt the vessel from the tolls, you will make entry of the fact in a book.

On the next arrival of the vessel you will exact the tolls, unless on or before that time and within one month from her passage through the canal there shall be furnished to you proof of the actual delivery of the cargo at some port or place within the limits of the United States above specified. Such proof will consist of the certificate of the collector of customs at the port of destination showing the entry of the vessel and the landing of the merchandise there.

Should the prescribed evidence not be furnished within a period of one month after the passage of the canal by the vessel you will report the facts to the department, to the end that measures may be taken by it for the recovery of the amounts due.

The president in his proclamation said that the recent act of congress, passed in view of the fact that the discrimination at the Welland canal was in violation of the treaty of 1871, guaranteeing use of the St. Lawrence waterway on equal terms with Canada, made it his duty to impose a retaliatory toll on vessels passing through the Sault canal. The proclamation ends as follows: "Now, therefore, I, Benjamin Harrison, President of the United States of America, by virtue of the power to that end conferred upon me by said Act of Congress, approved July 26, 1892, do hereby direct that from and after September 1, 1892, until further notice, a toll of 20 cents a ton be levied, collected and paid on all freight of whatever kind or description passing through the St. Mary's Falls Canal in transit to any port of the Dominion of Canada, whether carried in vessels of the United States or of other nations: and to that extent I do hereby suspend from and after said date the right of free passage through said St. Mary's Falls Canal of any and all cargoes or portions of cargoes in transit to the Canadian ports."

A CONSOLIDATION OF INTERESTS.

The consolidation of interests between the Lehigh Valley Transportation Co., (Philadelphia & Reading Railroad,) and the Northern Steamship Co., (Great Northern Railroad,) is one of the most important transportation deals which has taken place for some time. By it the Lehigh Valley Line obtains a direct route to the Pacific coast, and the Northern Line, the best possible facilities on the Eastern seaboard.

The new company will be put under one management, beginning September 1. John Gordon, General Manager of the Northern Steamship Company, will be General Manager of the consolidated Company. General Manager, W. P. Henry of the Lehigh Valley will again be transferred to his old position on the Eastern seaboard.

The new company will have by far the best fleet of steamers now afloat on fresh water. Eleven of them are of steel, all built within a few years, and of the highest class of marine architecture. In all there will be eighteen boats, and they are worth not less than $3,500,000 John Gordon, the head of the consolidated Company, took over the management of the Northern Steamship Company about three years ago, and is generally voted one of the shrewdest and most capable lake line managers.

SHIP CANAL TO THE SEA.

Concerning the action of the next Congress on the proposed deep-water channel to connect the lakes with the Atlantic, Judge Chipman is quoted as follows: "No Congress will ever go backward in the matter. The lake country must have an exit by water to the ocean, and so to the ports of the world. This is so great a necessity that it requires no prophet to foretell its consummation. I am only surprised that so much has been done toward it. The deep water from Duluth and Chicago to Buffalo, and from Albany down the Hudson River, are parts of the great scheme, and are already provided for, so that we have the deep channel in the lakes at one end and down the Hudson on the other already provided for, recommending an appropriation for a survey of the canals, one around Niagara Falls, and the other from Lake Ontario to the Hudson River. You see the work is practically commenced and the ocean exit pushed to success. The Detroit deep waterways convention may congratulate itself. To get to the ocean will cost $150,000,000, but the saving on freight, breaking bulk, etc., will in two years more than pay that. Michigan, with her extended shipping, touching all the lakes except Ontario, is, of course, greatly interested in ocean navigation, but her interest is only a part of the interest which 29,000,000 of people, resident in the country tributary to the lakes, have in the matter. The channel to the ocean will mark this century as the wonders of the world marked the centuries in which they were achieved."

CROSSED THE RIVER.

DAVID PORTER DOBBINS, SUPERINTENDENT U. S., L. S. S., IS DEAD—HIS LOG CLOSED AFTER A WELL SPENT LIFE

Captain D. P. Dobbins, Superintendent of the Ninth Life-Saving District, died at his home in Buffalo, N. Y., on Saturday last, after a brief illness, lasting only one week.

The accompanying engraving, taken from a recent photograph, is a fair representation of the late superintendent, and serves to record his features more truly than so brief a sketch as this can his estimable career. In looking back over the life-record of the late captain, we but call to memory the career of his progenitor and note that his father, Daniel Dobbins, played, like himself, a prominent part in the history of the lakes. Daniel Dobbins came from the East to Erie in 1798, and two years later was sailing the schooner Harlequin, and afterwards other schooners, mostly in the service of the Hudson Bay Company. His boat was captured at Mackinac by the British and Indians in one of the opening scenes of the war of 1812. He escaped to Detroit, was there when the British took that place, reached Sandusky by canoe, worked his way by sail and horse to Erie, and was dispatched at once to Washington with the news of the loss of Detroit and Mackinac. Capt. Dobbins received a commission from the United States Navy, and was ordered back post-haste to Erie to cut timber and build vessels. With his own hands he cut the first stick of timber for Perry's fleet. Capt. Dobbins was put in command of the Ohio in Perry's fleet. After the war he continued in the Navy for a time, then entered the revenue service as a captain of the Rush; afterward built the cutter Erie, went to sea for a time, returned to the command of the Erie, and finally died in Erie in 1856 at the age of 85 years. His wife, Superintendent Dobbin's mother, lived to be 100 years old.

David Porter Dobbin, the subject of our sketch, was born in Erie, Pa., in 1820, and began sailing about the year 1833, first on the steamer William Penn, and afterwards on the schooner's Maurice, Buffalo, brig Indiana, and revenue cutter Erie. When only about 19 years old he bought the schooner Marie Antoinette, rebuilt her at Erie, and changed her name to Nick Biddle. After sailing her for some years Capt. Dobbins sold her and retired from the lakes for one year, at the expiration of which he took command of the schooner Henry Norton, then of the schooner Woodbridge; then he bought the schooner Emily, and sailed her for some years between Buffalo and Chicago. He finally sold her to take command of the fine steamer Lexington. Shortly after he built the propeller Troy at Cleveland. He navigated her for a few years, then sold her, and in 1851 he stayed ashore and went into the insurance business at Buffalo as marine inspector for the old time firm of Durfee & Atwater, at which he was more than ordinarily successful. Capt. Dobbin's chief work, however, the one by which he has won a wide and honorable fame, was the saving of human life. He organized and led the first relief expedition that ever put out of Buffalo to a sinking wreck, and the episode ably recounted in the *Illustrated Buffalo Express* of August 21, is as follows: On the night of October 3rd, 1853, the schooner Oneida was sunk off Point Abino. Vessels coming into port next morning reported that she lay on the bottom, with a dozen feet or so of her foremast out of water, and several men lashed thereto. A little later another vessel arrived and reported that three survivors were clinging to the mast. Later still another vessel came in with the news that one man was clinging to the mast. The incoming vessels had been unable to go to his relief. There was excitement in Buffalo. In vain were steamers' captains urged to put out to the wreck. Finally Capt. Dobbins organized a volunteer crew, including Capt. Eugene Newman, Capt. Gunning, Capt. Glass, and other masters of vessels. They loaded a boat on wheels and with four horses hauled it to the Black Rock ferry. When landed on the Canada side, a rough and fatiguing 12-mile tramp was made along the shore to Point Abino. The wreck was some miles off shore and the weather boisterous. The boat was launched, reached the sunken wreck with great peril, and got ashore again with the one half-dead survivor. Just as they took him off, the steamer Mississippi hove tardily in sight, too late to give aid. A night was spent at Point Abino for rest. So heavy was the work of hauling the boat along the shore that two horses were killed. The citizens of Buffalo presented to Capt. Dobbins and each of his comrades a gold watch, suitably engraved.

In 1860 Capt. Bobbins again distinguished himself by the rescue of the crew of the schooner Comet, ashore at the Tifft Farm. He saved the crew, but the new metallic life-boat used was dashed to pieces. This boat was the Francis corrugated iron boat. Its use marks the beginning of the Government life-saving service. The Government about 1855 had appropriated $10,000, with which to furnish these boats to prominent points on the Atlantic Coast and the lakes. Capts. Dobbins and Dorr had charge of the boat, being under bonds for its safe-keeping.

In 1875 the Life-Saving Service was reorganized. In 1876 Capt. Dobbins was appointed superintendent of the 9th District, and with that is told the history of the remainder of his life, for he died in the harness. The 9th District comprises the coasts of Lakes Ontario and Erie, and the Ohio River to the falls at Louisville, a coast line of about 1,000 miles. Under his administration the district has ranked second to none, and he has been one of the best known men in the service. It was in this service that he did his great work for humanity in the invention of the best life-boat in the world. The Dobbins life-boat is so well known now that it needs no description here only to say that it is unsinkable, rights itself if capsized, and bails itself out if filled.

Personally Capt. Dobbins was loved of all men, and we but re-echo the encomiums passed by others when we state that from our own knowledge, he was kind-hearted, true and genial, of a character that had no bitterness in it. He was industrious and enterprising, and had a strong will, but he did not try to impose it upon other people. He was a model citizen. His able life-boat was his hobby, and outside of that his chief interest his home and church. He was a member of Hiram Lodge, of Buffalo, F. & A. M. His wife died 7 years ago last spring. He leaves a married daughter, with whom he lived, and a son, Col. John R. Dobbins, of San Gabriel, Cal., a veteran of the 116th N. Y. Vols. One sister survives him, Mrs. Fleeharty, of Erie. THE MARINE RECORD condoles with his family and friends in their bereavement.

THE OHIO NAVAL RESERVE.

While the subject of lake naval reserves has been frequently written upon and generally talked about among vesselmen, also receiving the endorsement of the former Lake Carrier's Association, it must be admitted that there is still considerable inertia to be overcome before the principal lake ports will take a sufficient interest in such an organization as to make it a success. News now comes from Toledo, O., that at a well attended meeting recently held at that port the following resolution was adopted:

"We, the undersigned citizens of Toledo, hereby signify our desire to volunteer our services to the Governor of Ohio, Hon. Wm. McKinley, Jr., and request his excellency to muster us for special naval service as a detachment of the Ohio national guard, and when organized to be recognized as an organization of the Ohio naval reserve."

The plan is to organize and equip a force which shall be ready to act for the government whenever there shall be need, and act on the water in a similar manner to that taken by the military on land. It is expected that this movement will become general and that all lake cities will join in.

HARD UNTRUTHS.

Our unusually well advised New York contemporary, *The Safety Valve*, overhauls the navigators of the North Atlantic in the following unjustly trenchant style anent the record day's work of the white Star Liner Teutonic.

"But how do we know that the Teutonic really made 528 knots in twenty-four hours' run? It is very easy for a deep-water navigator to make a mistake with the sextant in getting the sun and, again, in plotting the ship's position. It is strange that the master's calculation should have made it exactly twenty-two knots an hour for the whole twenty-four hours.

There is an unwritten law that records to be reliable must be checked by disinterested authorities. Thus the departure and first sighting of a ship from Sandy Hook to Queenstown is telegraphed by the signal station operators at both ends of the route; the officers of the ship not being able to influence it, but a day's run in the open sea can readily be "cooked" to suit the taste and fancy of an enterprising master or may be expanded to absurd limits by mistakes in observations, miscalculations, ignorance, or forgetfulness of the differences in the length of geographical degrees due to spheroidicity of the earth's surface and other causes."

The foregoing are terribly hard untruths, and propounded by an individual who we surmise has but a scant knowledge of the *causes* involved in the careful navigation of a transatlantic passenger steamer. The half digested notions which our contemporary appears to have adroitly concealed under the (to him) vague terms of the "geographical degrees due to the spheroidicity of the earth's surface and other causes" are simply so much gush, and proclaims an entire misapprehension of the duties of ship's officers, besides giving the lie presumptive to the engine room, the bridge and chart room. Our eminent contemporary should not stoop to vilify a worthy and skillful class of men for no cause; hence our protest at this time.

THE CANAL TOLLS.

Special Correspondence to the Marine Record:

President Harrison's proclamation imposing a tax of 20 cents per ton on freight passing through St. Mary's Falls to Canadian ports has created quite a furore here. Mr. W. A. Geddes, one of Toronto's well known vesselowners, is convinced that tolls will disastrously effect Canadian shipping.

In an interview, he said: "There is a feature in this matter that seems to have been overlooked, and that is that the toll cannot be collected by the American Government on bottoms registered in Great Britain, such as the Algonquin, owned by Thomas Marks, of Port Arthur. They can not tax a bottom registered in Great Britain, and if they do there is going to be international trouble. British vessels have rights in foreign waters that Canadian vessels don't enjoy."

"How will the new toll affect Canadian bottoms?" Mr. Geddes was asked.

"It will affect Canadian bottoms very disastrously for this season. The new Soo Canal can be got ready by next year, and it will render us independent of the Americans. I don't think the toll will affect contracts to any appreciable extent, as there are no charters made for more than one or two cargoes. The toll of course will injuriously affect our shipping. At the same time, if our Government will hold their backs up and stand firm we will be all right. I would suggest that the Dominion Government impose a corresponding discriminatory tax upon American vessels passing through our canals with which to reimburse Canadian vesselowners for the loss they will sustain by reason of the new toll. Almost 50 bushels of grain are carried through the Welland Canal in American bottoms to every bushel in Canadian bottoms, and that will give the Government sufficient money to recoup Canadian vesselowners for their extra outlay at the Soo.

Mr. J. T. Mathews, of the firm of J. & J. T. Mathews, shipowners and agents, admitted that the imposition of the toll tax is a very serious matter to Canadian shipping. "As I understand it," he said, "the toll applies only to cargoes sent by the Kingston and Montreal route. I don't think it applies to Canadian grain shipped to Buffalo, and it just means that all Manitoba grain will go that way. In other words, it will prohibit it going by way of Montreal, and will therefore be a discrimination against Montreal and Kingston. There are many Canadian vessels that will not be affected, and they can carry cargoes to Buffalo."

"What course do you think the Government should adopt?"

"I know what the English Government should do. It should put a tax of 30 cents a bushel on American corn, and if England cared anything for her colonies she would do it. Some action will have to be taken by the Canadian Government for the relief of Canadian shipping. I would suggest taking the tolls off altogether and making the canals free."

"How do you regard the action of the Dominion Government in deciding to abolish the rebate at the end of the season?"

"The Dominion Government could do nothing else under the circumstances that I can see, just now, unless they take the tolls off altogether.

There is one thing in regard to this question that the people do not seem to understand, and that is there is no discrimination in favor of Canadian vessels whatever. American vessels receive the same rebate on grain transhipped at Kingston as the Canadian vessels do."

Mr. Henry Beatty, Manager of the Canadian Pacific Steamship Company, felt certain that the Company's vessels would continue their regular trips. The action of the President would certainly affect injuriously Canadian shipping, especially the C. P. R. and the Sarnia line. The levying of the toll meant a straight loss to this extent on all freight handled, but it meant more to the majority of vessels running through the Sault. It meant that they would be unable for any great length of time to continue to do business on Lake Superior. He thought that they might find trade, however, in Lakes Huron and Michigan, which would recompense them for the loss of the northern water. The President's action was undoubtedly a political dodge, but it was none the less an evil, as it meant, owing to the lateness of the election in the States, that the order would continue in force till the close of navigation. This would hurry on the construction of the Canadian canal, although he feared that this work would not be finished by next summer. If was possible, he supposed to push it through by that time, if the work were carried on night and day, but this would mean a considerable loss, not only to the contractor, but to the Government.

J. A. C.

THE LAKE CARRIERS ASSOCIATION.

The Finance Committee of the Lake Carrier's Association held their regular meeting in the office of Mr. M. A. Bradly, Cleveland, Ohio, on Monday afternoon, with Captain James Corrigan in the chair.

The meeting was a well attended one. Mr. Charles H. Keep, Secretary of the Association, was instructed to bring before the attention of the Light-House Board, the wishes of the Association regarding the disposition of the original appropriation for a Light-House at Peninsula Point. The Light-House Board will also be asked to take charge of the floating lights at the Limekiln Crossing, now being voluntarily supported by vesselowners.

The usual raise in the card rate of wages was acted upon, and firemen's wages were advanced to $35 and $40, wheelsmen and seamen on sail and consorts the same; the advance to take effect on September 1st, on all vessels in the Association, and whether on the lake or in the port. All other rates remain the same as adopted on April 5, 1892.

The Marine Record,

ESTABLISHED 1878.

Published every Thursday, at 144 Superior Street (Leader Building,) CLEVELAND, O.

IRVING B. SMITH. }
CAPT. JOHN SWAINSON. } - - - Proprietors.

BRANCH OFFICE.

CHICAGO. ILL., - - - 35 Franklin St.

THOMAS WILLIAMS, Associate Editor.

SUBSCRIPTION.

One copy, one year, postage paid, - - - - - - $2 00
One copy, one year, to foreign countries, - - - $3 00

Invariably in advance.

ADVERTISING.

Rates given on application.

CLEVELAND, O., AUGUST 25, 1892.

THE iron and steel shipyards have now enough work on hand to keep them busy during the entire winter, therefore contracts for new tonnage can not be placed so advantageously for the owners as they could have been a few weeks ago. The increase in new tonnage contracted for, is still within the limits of commercial progression and several more orders for for new vessels are likely to be placed for next season's business.

THROUGH the death of Captain D. P. Dobbins, a vacancy has been caused in the U. S. L. S. S., as Superintendent of the Ninth District. The Captain rose from the ranks, and others are now in the line of promotion. Surely there is calibre enough in the service to fill the duties of a superintendency without calling in the aid of political influence to place a new appointee in the field. Merited promotion establishes a commendable *esprit de corps*, and it is to be hoped that one of the old and faithful keepers will be told to take a step upwards, which in turn, will give others a step also.

THE disposition of the Dominion Government to procrastinate in the matter of lifting the burden of discrimination in canal tolls, has brought forth a proclamation from President Harrison for the collection of tolls on Canadian vessels passing through the St. Mary's Falls Canal equal to the toll now exacted from U. S. vessels passing through the Welland Canal to American ports. No other action was possible on the part of the United States, and the onus still rests with the Dominion to show just cause for levying a tax on tonnage using waterways where free and unrestricted traffic was assuredly implied.

IT is of no small interest to the lake marine that a contract involving the expenditure of a million dollars has just been placed with a firm of Cleveland shipbuilders for two passenger steamers to ply between Buffalo and Duluth. Detroit is also to be congratulated on securing a similar, though not so large a contract, for two new side-wheel steamers, as the two required for the D. & C. Line will certainly be built there. These four new passenger steamers, with the two large freight steamers, 377 feet, 6 inches long, and the large whaleback passenger steamer for the World's Fair, forms the most prominent tonnage now in sight for the season of 1893.

OUR thanks are due to the U. S. Light-House Board, for the latest edition of the "List of beacons, buoys and day marks of the U. S. on the Northern lakes and rivers," corrected to the opening of navigation 1892. This work, which is issued annually from the Government Printing Office forms a portion of the most valuable department literature brought under our cognizance, and it is of inestimable value to the lake seamen as an aid to navigation. The work is compiled from *data* furnished by the light-house inspectors of each district, and as these officers are continually from point to point throughout the season, the sailing directions are perfect. We also note that the typographical work and form of the new list is superior, and much more convenient than former issues, a feature which is highly commendable as showing the disposition of the Light-House Officials to render the greatest amount of good to the sailing fraternity, in this, as in more important matters of efficiency.

ONE of the noblest men connected with the best interests and development of the lake marine has passed away since our last issue. For more than half a century Capt. D. P. Dobbins has been to the fore as a skillful seamen, valued citizen, and a man of sterling, upright character, honored and respected by all those with whom he was brought into contact, and affectionately endeared to those who were privileged to enjoy a closer acquaintance with him. Home and church, business and society circles, will sadly miss the soul-case that contained a heart and a half in all honorable enterprises and departures; even after he had passed the allotted age of man the light of commendable enthusiasm burned incomparably brighter than that of his most juvenile contemporaries, and his honest singleness of purpose but permitted him to see the right path to pursue it. As a superintendent of the U. S. Life Saving Service, promoted too, through sheer force of merit from the ranks, it would be difficult to find his equal, and we are free to state that there is not an old hand in the service who will not feel that he has lost a friend through the calling hence of the superintendent of the ninth district. The Buffalo *Express* voices the sentiment of a great number of persons in stating that: "By his death Buffalo loses one of her oldest and best known citizens. The government loses a devoted servant, who was faithful, efficient, ardent and enthusiastic in the discharge of his trust, and in the improvement of the service over which he had supervision. The world at large loses a true philanthropist, one who loved and who helped his fellows. His good works is a noble monument to the memory of Capt. David Porter Dobbins."

EVEN at this late date and stage of the game, our esteemed contemporary, *The Canadian Manufacturer*, desires us to again express an opinion on the at present settled canal tolls controversy. All that can be said now, is, that after September 1, reciprocal courtesies will be exchanged with Canadian tonnage using the St. Mary's Falls Canal, so that, while two apparent wrongs may not make a right, both parties now feeling aggrieved, yet, as the *Manufacturer* pertinently remarks, "sauce for the goose should be sauce for the gander," even so with an equitable adjustment of canal toll charges, although we do not believe in the reprisal-retaliation spirit, which a portion at least of the Dominion press has so wantonly indulged in of late. The national question of extended courtesies through artificial waterways, forming the gateway to neutral or international waters, is now a question for diplomatists to negotiate, though it would seem that the ill-advised discrimination practised in favor of Montreal as opposed to U. S. ports, will have the effect of more clearly determining the lines between strictly national waterways and those leading to, or commanding the traffic over international territory. It is a forgone conclusion, however, that foreign vessels will not be permitted to use the state canals, nor to enter and clear between U. S. ports, nor will their seamen be allowed to navigate American vessels. At the same time, the Dominion is perfectly justified in asserting all rights conceded by treaties, and to show cause wherein these rights may have been violated at any time.

THE STEEL STEAMER MARIPOSA.

The powerful high-classed steel steamer Mariposa, just turned out from the yards of her builders, the Globe Iron Works Co., to the order of the Minnesota Steamship Co., furnishes THE MARINE RECORD with an opportunity to present to its subscribers another of the largest and best photogravure supplement ever produced by a marine paper in the United States.

The Mariposa is the latest addition to a fleet of eight modern steel steamers built within the past few months, for the Minnesota Steamship Co. for the iron ore trade. The first five of these steamers are sister ships of 1836 net tons and valued at $200,000 each. They are named Manola, Mariska, Marina, Maruba and Matoa. All of which were built by the Globe Iron Works Co. The Masaba, 1992 tons, was built by the Chicago Ship Building Co., as was also the Maritana, 2300 tons. The Mariposa is a sister ship to the Maritana and each is valued at $235,000, although the Mariposa measures seven tons larger, is the last built and ranks as the flagship of the fleet. In other respects the steamers are rigged and fitted alike at a total cost of nearly 1¾ million dollars, or $208,750 for each ship.

The general dimensions of the Mariposa are 353 feet over all, 335 feet keel, 45 feet beam and 24 feet 6 inches molded depth. Her estimated carrying capacity is 4,000 tons on a draft of 16 feet, speed 14 miles an hour, engines triple expansion, diameter of cylinders 24, 39 and 63 by 48 inches stroke, three Scotch type boilers 12 by 12 feet, tested for 175 pounds steam and the usual auxiliary machinery and modern equipment, including an electric light plant. The steam windlass, capstans and steam steering gear, as well as the main engines and boilers, propeller wheel, etc., are all from the works of her builders, and the now finished ship represents the highest class of workmanship and skill ever put into a freight carrier on the lakes. Her trial trip on Tuesday afternoon was eminently satisfactory to both owners and builders, and she left port on her maiden trip on Wednesday under the command of Capt. George Mallory and Chief Engineer A. Arnold.

CONTRACT FOR A LARGE STEEL STEAMER.

A contract has been signed during the week by the Chicago Ship Building Co., W. I. Babcock, manager; for the construction of a large steel freight steamer to the order of the well known Chicago firm of C. W. Elphicke & Co. and Arthur Orr. The general dimensions of the new steamer are 310 feet over all, 290 feet keel, 41 feet beam and 24 feet 8 inches molded depth. Engines, triple expansion, cylinders, 19, 32 and 52 by 52 inch stroke, and and two 12 by 12 feet Scotch type boilers. She is to be fitted out with an electric light plant and all modern appliances to facilitate the handling of ship and cargo. Her equipment will include a steam windlass, capstans, steam steering gear and other standard mechanism adopted in modern tonnage, and throughout she will be of the latest and best construction known to the art of shipbuilding. The new steamer building for the Buffalo syndicate of vessel owners is being well advanced and Manager Babcock is figuring somewhat closely on other important new contracts one of which it is learned is for a handsome steel steam yacht 185 feet in length for General Torrence.

THE LARGEST CARGO EVER CARRIED ON THE LAKES.

The new steel steamer Maritana, built by the Chicago Ship Building Co., broke the cargo record on the lakes on her maiden trip this week by carrying 4,218 gross, or 4,808 net tons of iron ore from Escanaba to South Chicago on a draft of 17 feet 6 inches. The Maritana will now go in her regular trade to Lake Superior. The next best record was 4,103 net tons of ore from Escanaba to South Chicago, made by the Maryland of the Inter Ocean Transportation Co. a few weeks ago. There is no doubt that 5,000 tons will be an ordinary cargo, when a depth of 20 feet is secured from port to port, although it will necessarily be some years yet before this draft can be obtained.

THE FREIGHT SITUATION.

One effect of the switchmen's strike at Buffalo has been to make the lake freight situation pretty blue on both up and down freights, but it is hoped now that it has been declared off and freight is moving pretty lively again that the situation will assume a brighter phase. There is very little doing in Lake Superior ore for outside charters as the mining companies owning large carriers can easily place all the ore they require at Lake Erie points at this time. The Ashland rate remains nominally $1 and the Marquette rate 95 cents. The Escanaba rate was yesterday claimed to be 70 cents, but many vessel men refused to allow their boats to be placed at that figure.

Better things are promised in grain freights from both Duluth and Chicago. The wheat rate from the former city is 3 cents and from the latter port 2¼ cents.

Lumber freights continue strong and chartering is lively, partially owing to some of Cleveland's extensive lumber fires this summer when a large portion of the stock on hand was destroyed. Coal shipments from Buffalo have been limited but now of course, will pick up again and an increase in the rates is not unlikely. The Lake Superior rate fell during the past week to 40 cents and several boats were placed for Milwaukee at 50 cents, but other rates held their own.

FLOTSAM, JETSAM AND LAGAN.

The new steel steamer W. H. Gilbert brought down from Duluth last week a cargo of wheat which amounted to 105,000 bushels, equal to 3,150 tons net, being the largest cargo ever taken out of Duluth. The steamer E. C. Pope comes next with a cargo of 103,000 bushels. The co-efficient of fineness in these hulls is evidenced from their limited draft when loaded of about 14 feet 6 inches.

Capt. James Watts, formerly master of a Menominee line steamer and late of the lighthouse tender Warrington, has been given command of the City of London, Capt. James Davidson's "big four" fleet. Capt. Madden will command the City of Genoa.

The propeller, Fred Schlesinger, brought down 99,580 bushels of wheat from Gladstone last trip, this is probably the largest that ever came out of that port up to date, but as Gladstone is a new port there is ample time for a record to be made.

The sale of Davidson's new propeller, City of Venice, reported as in progress some time ago, was completed on Saturday. She goes to a Bay City syndicate composed of Thomas Cranage, who takes a half interest, and W. H. and Frank McGraw, who take one-quarter each.

The wreck of the burned steamer Winslow was raised last Saturday at Duluth and towed into shoal water. The engine, boiler and coal cargo will be removed and the hull repaired for service by Capt. B. B. Inman.

Neil Mulvenny, second mate of the schooner Genoa, was knocked overboard, on Saturday, and drowned when off Lorain, Lake Erie. The accident was caused by the breaking of the tow-line chock.

Richard Blink of Saugatuck and Capt. Ben Davis, who formerly owned and sailed the schooner Kittie Grant, have bought the schooner I. M. Weston of Cleveland for $5,500. Capt. Charles Plummer, will command the Weston.

Regattas are now the ruling excitement among the pleasure seeking gentlemen of the lake ports. The relaxation is a health giving, manly pastime, and need not cost much money when moderate economy is an object.

Wheeler & Co., of West Bay City, Mich., are preparing to put $100,000 into improvements in their present engine building plant, and expect to build the greater part, if not all, of the machinery for the big steamer to be built for the Hawgood & Avery Transit Company. It is evident that this company al ke to other big ship building plants, recognizes the importance of turning out not only the hull but the completed ship with engines, boilers and full equipment. The yard facilities of this firm will permit of eight vessels of 300 feet long being down at one time.

Continued from page five.

broken record was 4,103 net tons, Escanaba to South Chicago, made by the Maryland a month ago."

Graham and Morton's splendid new passenger steamer Chicora has already become a great favorite with lake excursionists. She arrived here one week ago from Detroit where she was built by the Detroit Dry Dock Co. Her dimensions are 217 feet over all, 40 feet beam, 15 feet depth of hold. Her engine is triple expansion, with cylinders 20, 33 and 54 inches, by 42 inches stroke, and she has Scotch type boilers 14 feet diameter 12 feet long. She is supplied with an electric light plant. Her saloon, cabin and state rooms are elegantly fitted and furnished. She is very strongly and well built and of handsome model, and with her great power should be very speedy. Your correspondent has been informed that she can make the run between Chicago and Saint Joseph, a distance of 61 miles, in a little more than 3½ hours. It is intended to run the Chicora between this port and Saint Joseph all the year round if the weather does not prevent, and we wish her enterprising owners great success with her. Capt. Edward Stines is commanding her; William Russell, 1st mate; George Leggett; 2nd mate, Robert McClure; chief engineer, William J. Hancock, purser; Chas. Springstein, steward.

The fine steamer City of Berlin, Captain G. W. Flood, arrived here Monday afternoon, light, from Chicago, where she had discharged 2,233 tons of iron ore in 5½ hours which she left Two Harbors, Lake Superior, with the previous Thursday night. Prior to that trip she has made this season ten round trips with loads between Buffalo and Lake Superior ports. She carried a full cargo of wheat for Buffalo Tuesday. Capt. Flood is very proud of his command, and says that with the aid of the fine triple expansion engine on board, by Hodge & Co., Detroit, and engineer Pearce, who handles it very skillfully and successfully, he can run past all wooden built, and most of the iron built steamers on the lake. WILLIAMS.

BUFFALO, N. Y.

Special Correspondence to the Marine Record.

The fourteen tug firemen who struck lately were out for trouble one night last week, and, boarding several tugs, attempted to drive off the men who had been put on in their places. The new fireman on the tug, John Johnson, was severely beaten, but the little strike is now entirely over, and most of the old firemen have lost their jobs.

The Northern Steamship Co. and Lehigh Valley Transportation unite interests under the management of John Gordon, general manager of the former company; Capt. W. P. Henry, who has for many years held a similar position with the Lehigh Valley people, is to be made superintendent of the Reading's floating property at Philadelphia. It is believed by many that this scheme will ultimately be a practical consolidation of interests. It is a most important move in any event.

Owners of many of the ancient transfer elevators which disfigure the harbor at various points, have been ordered to either repair or pull down the structures which have become dangerous through decay. The city will pull them down if the owners do not.

Three new steamers have made their first appearance in Buffalo this week, The City of Genoa, Ketcham and Pillsbury.

The strike of the switchmen has almost completely stopped coal shipments, and threatens a grain blockade. As yet grain boats have suffered no very serious delays, but many vessels have had to unload at other elevators than those to which they were originally consigned. Consignors hesitate to forward by canal, and though rates on that waterway have advanced, there appears no greater volume of business than during the first of the season. Canal elevators have considerable room left for storage, and grain might be much more freely moved if western shippers would consign via. canal to New York. The rail elevators are pretty nearly full, but have managed to take care of their own line boats without any great difficulty.

The death of Capt. D. P. Dobbins was a sudden shock to his friends and the country at large. He has been instrumental in saving thousands of lives by personal exploits, and the invention of the valuable life-saving appliances. His funeral was largely attended.

The Union Line steamers, Rochester and New York, have been temporarily laid up.

The Lake Line managers met August 11, and decided to advance fifth and sixth class rates to 20 and 17½ cents, effective September 1.

Three black spar buoys will mark the edges of the new channel at Strawberry Island, Niagara river. The red spar buoys, known as Monk Island and Elbow buoys, will be removed.

The new tug Cascade is pronounced by all tugmen as fine a craft as could be turned out. She has the most powerful engine of any tug in the harbor. Capt. Pat Linn will sail her.

Philadelphia dispatches which name John Gordon as manager also of the Great Northern Railroad are in error. Mr. Gordon, though a personal friend of president Hill, confines his attention to the management of the steamboat line.

The schooner Dobbins struck a boulder going down Niagara river last Monday, and knocked a hole in her bottom. She is in the Union Dry Dock for repairs.

The lumber cargoes of the steamer Toledo, and schooner Guiding Star were libeled through Cook & Fitzgerald for Eber Ward, Tuesday, for $2,525.06, as the difference between freight paid and freight claimed.

The new steamer City of Genoa is in the Mills Dry Dock for slight repairs.

The new whaleback steamers Washburn and Pillsbury are down in Inland Lloyds as hailing from Buffalo, Their port of hail as painted on their hulls is Gladstone.

The steamer William Edwards ran 86 bushels short on a Chicago cargo at the Coatsworth Elevator.

NEWS FROM THE HEAD OF LAKE SUPERIOR.

Special Correspondence to the Marine Record.

Duluth, Minn.—The agony is over for vessel men here, for they know just what the President intends doing in the matter of Canadian discrimination. They had been besieging Washington with telegrams asking information as to the probable steps to be taken and the date thereof, for any sudden action would have had large and unpleasant influence on them. Generally speaking the local agents are in favor of the proclamation, even those who are directly affected, like the Sarnia line people. This line has always made a specialty of the flour trade and this is chiefly affected, but agent Hurdon looks to see the Canadian government pay the duty imposed rather than back down on the main proposition. The chief sufferers are to be the little dealers up in the Canadian northwest, who will have to pay the increased cost on whatever they buy and on what they sell, as well. The wheat trade of the Canadian northwest is carried on in a manner entirely different from what is pursued here; in Winnipeg alone, for instance, there are probably fifty buyers of grain, each one handling perhaps not over 25,000 bushels in the season, and each one demanding that his wheat be kept separate in the holds of vessels. These little dealers will be the ones who will be obliged to pay the extra cost of transportation caused by the new proclamation. Then also the Canadian supplies must pay the duty to reach the northwest. The Canadian Pacific road will be more seriously affected than any of the lines running in here.

The Canadian consular agent here this morning said in an interview that Duluth had every reason to rejoice at the turn affairs had taken. He does not think that the flour business will be seriously affected, and he believes that the Montreal wheat trade will not suffer at all, because of the small amount of the tax as compared with the freight rate on the wheat. He adds "The Canadian Pacific railway will be the great sufferers as the merchandise which now goes to Port Arthur or Fort William will come to Duluth for transportation. Port Arthur and Fort William will be practically dead so far as lake business is concerned, until the toll is removed. An immense amount of coal goes to those points, in fact for all territory tributary to the Canadian Pacific west of Port Arthur. Merchandise of all descriptions will be likewise affected.

The steamer Winslow, of the Lake Superior Transportation Co., which burned to the water's edge last summer while lying at the dock here, and was soon after bought by Commodore Inman of the Inman tug fleet, was raised Saturday and towed toward the shoal water of Minnesota point, where Inman intends to repair and rebuild her as a lumber barge. Her sides had been raised and water was pumped out till the hull floated. Only about 400 feet of a move was got on her as the hull was found to be a good deal more damaged than was expected and the pumps couldn't keep her afloat. By the end of this week she will probably be where Inman wants her. The half of the city of Winnipeg, burned way back in the early 80's, is still an obstruction in the harbor.

The government has advertised for bids for the harbor work to be done at Duluth and Superior under the new appropriations. Bids for Duluth harbor and the St. Louis river work will be received up to Sept. 20, and for Superior harbor to Sept. 5. Of the total appropriation there is about $175,000 available for this entire work. On the Duluth side some $25,000 will be retained for contingencies and the canal, nearly half the rest will go into the channel east of Rice's point, where work is already in progress. Forty-five thousand will go into a channel up the river from Grassy point, and the balance will be used in the channel between Rice's and Grassy points.

The fact that President McLeod of the Reading road had appointed Mr. Gordon of the Northern Steamship Co. general agent of the Lehigh line has been the innocent cause of a good many rumors that have made the round of lake ports. President Hill, of the Northern Co. denies that there is anything in it tending to a consolidation of the interests of the Great Northern and Reading roads. But a man cannot tell much by what Jim Hill says. He has the usual little peculiarity of railway men to a very large degree, and is more likely than not to talk through his hat to reporters, simply to keep in practice. A consolidation of these two companies would give a splendid fleet, especially if to the freight boats are added the passenger ships now contracted for by the Northern Line and other wealthy stockholders.

For the week just past the stock of wheat here has decreased but slightly, receipts having been about 350,000 bushels and shipments over 500,000. The banner week for summer shipments was last, when over 950,000 bushels—according to the figures of the state inspectors—were sent forward. There is now a trifle less than 2,000,000 bushels in store at the head of the lake and the new crop will begin to move in a month. New crop prospects are excellent; harvesting has been in progress now for a week at least in central North Dakota, and three more weeks will put everything out of the reach of frost, which is now the only fear of the farmers. While the crop will not equal the bumper figures of last year, it is now estimated that it will considerably exceed that of any year before the last and will foot up to over 100,000,000 bushels. This will give a large surplus for shipment. As a matter of fact, however, the rapid increase in the number of flour mills at the head of the lake presents a problem for the grain shipper that he will do well to consider. During the past twelve months the wheat received at Duluth footed up to 53,000,000 bushels; on no former crop, however, has it ever exceeded 22,000,000 bushels. About 25,000,000 bushels, therefore, is likely to be all we can figure on for the future as the annual receipt of wheat under natural conditions. Now there is built and building at the head of Lake Superior, flour mills that inside a year can be grinding at least 16,500 barrels a day. This is a trifle less than 100,000 bbls., or 450,000 bushels of wheat weekly. In other words the mills now assured will or can, consume every year an even 25,000,000 bushels of wheat, or all that the head of the lake can expect to receive unless some forced methods are resorted to to bring more here. Who is likely to use these forced methods? Surely not the mill men for they have enough. Will the vessel men be able to carry very much in wheat? Besides these mills spoken of other outside mill men are frequently reported as figuring on locating plants here. Of course if the wheat is made into flour the flour must needs be carried, but there are lots of vessels that can't carry flour.

Freight rates are dull, partly because of the Buffalo strike, and wheat is now being carried at 2¾ cents, and even less. Ore rates are at about $1.10 and lumber rates are $3.00 to Chicago, and about $2.50 nominal to Lake Erie. Shipments to Lake Erie are very large but there is little of open chartering.

The statement that the new whaleback steamer Pillsbury was a finer finished vessel than the Washburn is an error. Both are the same. At the whaleback yards yesterday the keel was started for the passenger ship—350 feet over all. She will not be hurried but will be ready next year.

Iron ore shipments from the Vermilion range mines have been light in August so far, only about 75,000 tons. For the season to date they have been over 600,000 tons. A recent computation shows that up to the present time contracts and leases have been made on the Mesaba range that call for an output next next year of 1,400,000 tons, and a great many of the mines have made no leases; some of the best ones will not, but will mine themselves. The output of the new range promises to be large, therefore. D. E. W.

SHIP BUILDING AT WEST BAY CITY.

Special Correspondence to the Marine Record.

The tug Winslow of the Saginaw Bay Transportation Co. is temporarily out of commission, her engine and machinery is to be thoroughly overhauled. The new tug of this firm has been named the Willie Boutell and went into commission last week, Capt. Beloise is in command.

Some complaint is being made by log-towers against the encroachment made by the mill men extending the docks so far into the river. This is especially noticeable at the bend of the river near Essexville which makes it hard work to get around with a long raft. It is not unlikely a complaint will be made to Gen. Poe.

The barges David Ferguson and A. W. Wright has been in the dry dock for recaulking. The steam barge Empire was refastened and recaulked, and the tug Maxwell A., of Alpena, was ironed off. The barge Donaldson goes in to-day for a new stem.

The City of Naples, the last of the big three is nearing completion at Davidson's yard, and will be launched in about three weeks. There are two schooners also nearly completed, while work on a third is progressing rapidly. The tug for the Davidson Transportation Company will soon be ready to launch. The barge Oneida has been changed past recognition, her old stern was sawed off and a new one of modern design put on. She has also received new bulwarks and stanchions, and her cabins both fore and aft are entirely new.

The McGraw Transportation Co. has purchased the City of Venice from Capt. Davidson. This is the same company that purchased the City of Paris last spring. The City of Venice was launched last June and has been in commission about six weeks. On her maiden trip down from Duluth she carried 85,000 bushels of wheat on a draft of 14½ feet. The consideration is reported to be $150,000.

The prospects was never better for a good season's work at F. W. Wheeler & Co.'s yard than it is at present. The contracts made durtng this month aggregate $780,000. One is a steel steamship for the Mitchell Transportation of Cleveland, to cost $225,000. One for Hawgood and Avery also of Cleveland, to cost $240,000. One for David C. Whitney, of Detroit, to cost $240,000. and one wooden boat for Colin McLachlin, of Port Huron, to cost $75,000. These large contracts has necessitated the lengthening of the dock frontage and it is now being extended to the extreme northern end of the yard. This will give a frontage of 1,180 feet that can be reached by the traveling derrick. The three big steel vessels now contracted for will be built on this frontage at one time. If placed end to end the three would reach a distance of 1101 feet. The keel for the Mitchell Co.'s boat is laid and the work of putting up the frame, is well under way. The ocean tug building for New Orleans parties is almost ready for launching, the engines for which are being built at the company's shops. The two light ships that have been taken to their destination on the Atlantic coast, have been spoken very highly of by the Eastern papers which reflects great credit upon the builders. J. P. R.

THE trial and maiden trip of the steel steamer Maritana, built by the Chicago Ship Building Co., to the order of the Minnesota Steamship Co., proved eminently satisfactory, and she has been accepted by her owners, who will now place her on the Lake Superior and Lake Erie iron ore trade.

A tow entering Detroit river a few days ago was just above the Bar Point lightship when a stop was made to shorten up the towline. In starting up again the towline brought to the surface a large wooden stock anchor, but it fell to the bottom before it could be secured. It is about 800 feet to the northward of the Bar Point lightship, and about half way between the red stake at that point and the course followed on the Amherstburg range. Captain Andrew Hackett keeper of the Bois Blanc Island light noted the position where the anchor was picked up and it will probably be dredged for.

Lake Ontario owners of pleasure steamers do not like American yacht clubs hiring Canadian passenger steamers to attend their races. The Rochester yacht club is especially denounced, and the proceeding is said to be illegal, poor policy, and a direct slight to home industry and Am rican enterprise, as there are several fine steamers under the stars and stripes there can be no excuse for going across the border. Among the American boats are the Bon Voyage, Island Chief, Rochester, Charlotte and Hazel; all first class boats.

ON CORRECTING LAKE COURSES.

To The Marine Record:

Herewith please find a list of the principal runs on the lakes that require correction for the "inclination" of the magnetic meridians, with the required corrections, also the error that would result in the "landfall" if the correction were not applied—the compass being regarded as correct, or in proper adjustment.

Of course, it is only those runs that make a considerable difference of longitude that require this correction, as explained in THE MARINE RECORD for August 4.

The reason for making this correction will be seen when we recollect that in sailing on any course that makes "departure" or difference of longitude away from the immediate vicinity of the equator, the compass card swings to the right or left—to the right when the ship makes westing, to the left when she makes easting—the magnetic pole being the center of motion, thus taking ship to north in either case.

At the equator, the correction for this "swing" of the card is nothing, for, the meridians being parallel for all differences of longitude, there is no inclination, and consequently no "swing" of the card.

At the magnetic pole the inclination of the meridians is at its greatest, which is the full difference of longitude, while between these limits the inclination varies as the sine of the mean latitude of the two points between which the ship sails. But for reasons given in the issue of THE MARINE RECORD above referred to, the difference of longitude is assumed as the inclination of the meridian passing through the points between which the ship sails. This is very slightly too large—say 2 per cent. to 4 per cent.

This difference of longitude, derived from the U. S. List of Lights, is given in the first column of the following table, and shows the full amount of the swing of the card between the points named—the half of which, given in the second column, is the amount of the "correction," always to be applied to the south—*i. e.*, to the left when the ship makes westings, to the right when she makes eastings.

The distance given in the third column is the approximate distance between the points named, as deduced from the chart. This distance, with the correction-angle given in the second column, are the factors from which the "error" of landfall is derived, that would result were the correction not applied. The ⅛ of a point being 1° 24′, it will be seen that most, or the greater part of them may be called the ⅛ of a point. But the student may ask "how are we to make correction for the fraction of an ⅛ of a point when our compasses are not graduated below 1°?—say the correction of 46′, South Manitou and Chicago. Here it will be seen that 46′ is slightly more than ½ of an ⅛ of a point. Sail with a correction of a full ⅛, a little more than one-half of the distance, and sail the balance of the distance without any correction. This correction of the course is small, but it is important, as without it we should find ourselves out full three miles:

CORRECTION OF COURSES FOR INCLINATION OF MAGNETIC MERIDIANS.

	Name of Course or Run.	Difference of Longitude between ports.	Correction for inclination of meridian.	Distance between ports—miles.	Error of landfall, when no corr. is applied—miles.
		° ′	° ′		
Erie, Mich. Lake Superior.	Whitefish Point—Copper Harbor	2.54	1.27	145	3 6
	Whitefish Point—Isle Royall	3.48	1.54	192	6.0
	Whitefish Point—Marquette	2 30	1.15	116	2.6
	Copper Harbor—Devils Island	2.57	1.28	138	3.6
	Eagle Harbor—Lapointe	2.39	1.20	136	3.2
	Devils Island—Duluth	1.20	.40	68	.8
	South Manitou—Chicago	1.32	.46	228	3.0
	Grand Haven—Chicago	1.22	.41	109	1.3
	Long Point—Point Pelee	2.24	1.12	133	2.8
	Buffalo—Long Point	1.10	.35	60	.6

It is to be remembered that this correction must always be applied to the south, *i. e.* to the left when ship makes westings, to the right when she makes eastings.

H. C. PEARSONS.

AN OPEN LETTER TO THE SECRETARY OF THE TREASURY.

SAN FRANCISCO, AUG. 15, 1892.

TO THE HONORABLE CHAS. FOSTER, SECRETARY OF THE TREASURY, WASHINGTON, D. C.

DEAR SIR:—We, the officers of the American Mercantile Marine Service, residents of the city of San Francisco, Cal. respectfully call your attention to the efforts being made to grant American registry and license to the alien officers of the steamships "City of Paris" and "City of New York," and to urge upon you the necessity for retaining the management of all steamers carrying the American flag, in the hands of regularly licensed American citizens. For nearly one hundred years American officers have shown their superiority to those of all foreign nations. In the last war with England, our ships were the better sailed, better handled, and almost invariably victorious in action. The American trans-Atlantic packet service, owned and manned exclusively by American officers, was from 1816 to the time of our rebellion, the pride and glory of the American nation. Our foreign clipper service from 1845 until superseded by steam, challenged the admiration of the entire maritime world. The "Collins" line of American steamships, were further examples of American enterprise, and surpassed all steamship records to that date.

The yacht "America" defeated all competitors in the great race in the British channel, proving that American builders and officers acknowledged no equals in the world, and since that time the Trophy won by her has never been wrested from our possession.

Now that Congress has authorized the purchase of these foreign built vessels, we desire to prove to the world that Americans can equal, or excel the British officers who are now seeking to retain their positions by special legislation after the transfer of these ships to American registry.

We earnestly request that you use your exertions to defeat any proposition that may be advanced with a view to this end, and denounce such an attempt as un-American and impolitic and which should merit the condemnation of all patriotic Americans without distinction of party.

We of San Francisco, numbering nearly two thousand licensed officers of the Mercantile Marine, unanimously condemn such legislation, and ask that the inherent rights of American citizens be maintained, to the total exclusion of aliens from American registry.

We have the honor to remain,

Yours very respectfully,

Joint Committees: Capt. G. H. Bennett, Capt. J. W. Gage, Capt. R. C. B. Schwartz, of Steamboat Pilot Cal. Harbor No. 15. F. Cookson, Geo. A. Dunn, Chas. S. True, of Marine Engineers Association No. 35.

CONTRACT FOR TWO LARGE STEEL TWIN-SCREW PASSENGER STEAMERS.

The contract for the construction of two large passenger propellers for the Great Northern Railroad Line, has finally been awarded to the Globe Iron Works Co., Cleveland, Ohio. Although it was widely announced that the deal had been closed some two weeks ago it was not until last Saturday that the preliminaries were settled, and the "Globe" instructed to go ahead with the work.

The placing of this order marks perhaps the most important step ever undertaken in the history of the lake marine, and positively so, as regards the class of tonnage under construction; for the two large new boats are to eclipse in every point all the tonnage heretofore constructed on the great lakes.

The Lake Superior passenger traffic has been steadily increasing each year; 24,856 passed through St. Mary's canal in 1890, and in 1891, 26,190, with probably a corresponding increase in the passenger traffic for the calendar year ending 1892. It may also be stated that the present service is inadequate to supply the transportation facilities, as during the height of the season existing lines are obliged to refuse carrying a large number of passengers. This feature of the traffic has, however, been closely gone over by those financially interested in the outcome of this seemingly stupendous transportation deal, and the statistics at hand would seem to fully warrant the million dollar expenditure entered into by the Great Northern Railroad Co.; for a connecting link in their future Trans-Pacific Continental-Atlantic traffic, for which a thorough and perfect system has already been mapped out.

The general hull dimensions of the new steamers will be 380 feet over all, 360 feet keel, 44 feet beam, and 26 feet depth of hold. The engines are to be of the triple expansion type of 6,000 horse power, and steam will be generated by thirteen 12 feet boilers; both steamers are to have twin-screws, and a guaranteed speed of twenty miles an hour, making the distance of 1,000 miles between Buffalo and Duluth or West Superior in fifty hours, the lesser speed obtained in shoal water being provided for by the power to increase speed in deep water.

Passenger accommodation as at present planned is for 450 persons, or say, 250 saloon and 200 steerage, and it is safe to say that the entire appointments will be a revelation to the traveling public, not only of the lake states, but of the world.

The entire machinery is estimated to weigh 1,000 tons, so that but little freight will be carried, probably only a few hundred tons. This is to be a passenger line and nothing else till after the passenger capacity is made the most of. Though with 4,000 tons displacement they will come well up among good ocean steamers for size, having the carrying capacity of the New York and Savannah line, though of course incomparably superior in other respects.

The estimated cost of these steamers is $500,000 each and the contract calls for their completion by July 1893, a consideration in itself which would bar out of competition any smaller or less well equipped shipbuilding yard than the Globe Iron Works Co.

NOTES.

THE Yacht Outing, owned by Mr. D. H. Lyon, Ogdensburg, N. Y., has her propeller wheel placed about 15 feet forward of her stern post. She is only 45 feet keel and 60 feet over all. The Outing is the only yacht constructed on this model, the advantage of which consists largely in the fact that the screw can never be raised out of the water even in the strongest sea, and moreover, the vibration that results from a long shaft is to a considerable extent avoided.

THE present season, if it continues as it has thus far progressed, will be remarkable in the history of transatlantic travel in the high average of voyages made by the great liners. The City of Paris, the Teutonic, the Umbria, have shown feats that have been, when taken in comparison with their achievements in the past, remarkable to a profound degree. Records have been made that, while not regarded as unattainable, are nevertheless wonderful. The proportion of disasters has been exceptionally small.

HON. JOHN HAGGERTY, minister of railways and canals, is quoted as saying that he had issued orders to the contractors of the canal of the Canadian "Soo," to rush the work through to completion without a moment's delay. An increased number of men will be engaged, and the work maintained summer and winter until the job is finished. The members of the Government continue to decline to discuss the canal tolls dispute. Thus far no cabinet meeting has been called, and the impression prevails that the Government will not recede from its position, but will continue the rebate system until the end of the season.

MINISTER RYAN, in transmitting to the State Department recently published statistical tables of Mexican, foreign and shipping movements for 1891, calls attention to the highly gratifying condition of our ocean commerce with the neighboring Republic. He says: "It will be seen that more American steamers entered the Mexican ports than those of all the other nations of the world combined; that American sailing vessels entering were infinitely in excess of those of any other country, and that Mexico's domestic or internal commerce was carried by more American steamships and sailing vessels than those of all other nations combined, with the single exception of Mexico itself."

A MODEL of ocean currents is to be exhibited at the World's Fair which will possess great practical value. This model, which is a huge scientific tank, is made to represent the surface of the earth spread out on an area of about thirty feet square, the ocean and seas being shown by actual water. Small streams of water are ejected through pipes under the model so that the whole body of water moves exactly as the ocean currents move. The direction of the currents is shown distinctly by a white powder on the surface of the water. Near the model will be placed a large map giving the fullest details of the force, volume and direction of the various ocean currents.

AFTER a life-long service, working earnestly and conscientiously for God and man, Captain David P. Dobbins was laid to rest Monday afternoon. The chapel of the Trinity Church Buffalo, N. Y., was filled with his late friends and associates who came to render him just homage, when he was beyond the cares of this world. The honorary bearers were the vestry men of Trinity Church of which body deceased had long been a member. The active bearers were chosen from his associates in the Life Saving Service: Capt. Wm. Fish of Big Sandy Light, E. E. Chapman, Oswego; Joseph O. Doyle, Charlotte; Thomas Williams, Buffalo; A. P. Jansen, Erie; C. C. Goodwin, Cleveland; S. M. Clements, Point Marblehead, O. and Wm. M. Devan, Louisville, Ky. Among others present were: William F. Williams, of the local service; Capt. John Blackburn, of Oswego, and Lieut. Moore, who has now temporary charge of the station at Buffalo.

PROPOSALS.

TREASURY DEPARTMENT, OFFICE of General Superintendent U. S. Life-Saving Service, Washington, D. C., August 18, 1892. Sealed proposals will be received at this office until 2 p. m. of Saturday, the 17th day of September, 1892. for furnishing supplies required for use of the Life-Saving Service for the fiscal year ending June 30, 1893; the supplies to be delivered at such points in New York City, Grand Haven, Mich., and San Francisco, Cal., as may be required; and in the quantities named in the specifications. The supplies needed consist of Beds and Bedding, Blocks and Sheaves, Cordage, Crockery, Furniture, Hardware, Lamps, Lanterns, etc.; Lumber, Medicines, etc.; Paints, Oils, etc.; Ship Chandlery, Stoves, etc.; Tools and Miscellaneous articles, all of which are enumerated in the specifications attached to the form of bid, etc., which may be obtained upon application to this office, or to the Inspector of Life-Saving Stations, 24 State street, New York City; Superintendent Eleventh Life-Saving District, Grand Haven, Mich., and Superintendent Twelfth Life-Saving District, Appraisers' New Building, San Francisco, Cal. Envelopes containing proposals should be addressed to the "General Superintendent U. S. Life-Saving Service, Washington, D. C," and marked on the outside "Proposals for Annual Supplies." The right is reserved to reject any or all bids and to waive defects, if deemed for the interests of the Government.

S. I. KIMBALL, Gen. Supt. 8-25-9-8

UNITED STATES ENGINEER OFFICE, room 90, 134 Van Buren street, Chicago, Ill., August 6, 1892. Sealed proposals in triplicate for constructing three miles or less of the trunk of the Illinois and Mississippi canal near the mouth of Rock River; for screening, sorting and delivering sand and pebbles, and for excavating the lock pits, and constructing the foundations for two locks, will be received at this office until 12 noon, central time, Saturday, August 27, 1892, and then publicly opened. Specifications, blank forms, and all available information will be furnished on application to this office or to the office of assistant engineer, L. L. Wheeler, at Milan, Ill. W. L. MARSHALL, Captain, Corps of Engineers, U. S. A. 8-11-25

U. S. ENGINEER OFFICE, DETROIT, MICH., August, 16, 1892. Sealed proposals for: 1. Dredging bar at mouth of Saginaw River, Mich. 2. Dredging Essexville bar near mouth of Saginaw River. 3. Dredging west channel along West Bay City, Mich. 4. Dredging channel of Saginaw River above Bay City, Mich., will be received at this office until 2 p. m. September 15, 1892, and then publicly opened. Specifications, blank forms, and all available information will be furnished on application at this office. O. M. Poe, Colonel Corps of Engineers &c. 8-18-9-8.

U. S. ENGINEER OFFICE, 366 MILWAUKEE ST., MILWAUKEE WIS., Aug. 12 1892. Proposals, Harbor Improvements, Lake Mich. Sealed proposals for Green Bay Harbor, Wis., Dredging 120,000 cubic yards, more or less. Sheboygan Harbor, Wis., Pier Extension 200 feet with Superstructure. Port Washington, Harbor, Wis., Pier Extension 100 feet with Superstructure. Harbor of Refuge, Milwaukee, Wis., Extending Breakwater 500 feet, and 300 feet of Superstructure. Milwaukee Harbor, Wis., Cutting down and rebuilding 200 feet of Superstructure; repairing 250 feet of piers, and taking out and replacing with new 264 protection piles. Racine Harbor, Wis., Pier Extension 250 feet, and repairs. Kenosha Harbor, Wis., Pier Extension 150 feet. Waukegan Harbor, Ill., Pile Pier 376 feet, will be received at this office until 12 o'clock, noon, Monday, September 12, 1892, and then publicly opened. Specifications, blank forms, and all available information will be furnished on application to this office. James F. Gregory, Major of Engineers, U. S. A. 8-18-9-8.

U. S. ENGINEER OFFICE, 34 WEST CONGRESS ST., DETROIT, MICH., August 17, 1892. Sealed proposals for: 1, Dredging Black River, at Port Huron, Michigan: 2, Dredging mouth of Black River at Port Huron, Michigan, will be received at this office until 2 p. m. September, 16, 1892, and then publicly opened. Specifications, blank forms, and all available information will be furnished on application to this office. O. M. Poe, Colonel Corps of Engineers, etc. 8-18-9-8.

U. S. ENGINEER OFFICE, GRAND RAPIDS, MICHIGAN, August, 15, 1892. Sealed proposals for dredging in Frankfort Harbor, Michigan, will be received at this office until noon of Saturday, August 27, 1892, and then publicly opened. Specifications, blank forms, and all available information will be furnished on application to this office. William Ludlow, Major of Engineers, Bvt. Lieut. Col., U. S. A. 8-18-25.

WALTER F. COBB,
Vice-President and Treasurer.

W. I. BABCOCK, Manager.
O. R. SINCLAIR, Secretary and Asst. Treas.

Chicago Ship Building Company,

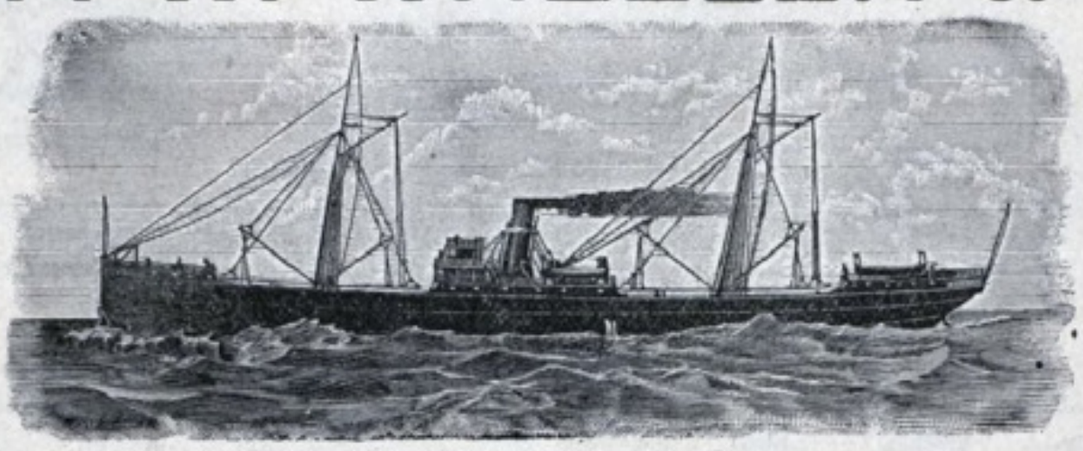
STEEL STEAM-SHIP BUILDERS.

101st Street and Calumet River, COLEHOUR, ILL.

D&C Steamer City of Detroit
Daily at 8:30 A.M. to PUT-IN-BAY & RETURN $1.
Meals. Refreshments, Brass and String Music.
Evening Lake Rides every
MONDAY & SATURDAY, 8 P.M.
FROM SUPERIOR ST, WHARF.

SATURDAY NIGHT EXCURSIONS to DETROIT
From June 5 to October 1,
GIVING A FULL DAY IN THAT BEAUTIFUL CITY.
FARE $2.25 ROUND TRIP.
WHARF 23 RIVER STREET.
A. A. SHANTZ, G. P. A. T. F. NEWMAN, G. A.
E. T. HOWELL, City Pass. Agt.

F. W. WHEELER & COMPANY.,



BUILDERS OF ALL KINDS OF
IRON, STEEL AND WOODEN SHIPS,
FOR LAKE OR OCEAN SERVICE.
West Bay City, Mich.

F. W. WHEELER, Prest. E. T. CARRINGTON, Vice-Prest.
F. L. GILBERT, Secretary.

INCORPORATED 1794.

Insurance Company of North America.

CAPITAL, Paid up in Cash, - - $3,000,000.00
ASSETS, - - - - - - 9,273,220.00

CHARLES PLATT, President. WILLIAM A. PLATT, Vice-President.
EUGENE L. ELLISON, 2nd Vice-President. GREVILLE E FRYER, Sec'y & Treas.
JOHN H. ATWOOD, Assistant Secretary.

Lake Marine Department.

GEORGE L. McCURDY, Manager,
CHICAGO, ILLS.

ORGANIZED 1881.

Michigan Fire and Marine Insurance Co.,

CAPITAL, - - - - -	$ 400,000
ASSETS, - - - - -	900,000
LOSSES PAID, over - - -	1,500,000

D. WHITNEY, Jr., President. EUGENE HARBECK, Secretary.
This Company will transact a Hull and Cargo business on the Lakes during the season of 1892.
LOSSES PROMPTLY PAID. INSURE IN A STRONG HOME COMPANY. **DETROIT, MICH.**

The Roberts Safety Water Tube Marine Boiler,

For YACHTS, LAUNCHES and other Steamers.
THE ORIGINAL FIXED WATER LINE PIPE BOILER.
"IMITATION THE SINCEREST FLATTERY."
We are collecting royalties from the customers of many infringers.

NEARLY 400 IN USE.

SAFE, RELIABLE, SIMPLE, LIGHT WEIGHT, ECONOMICAL, NO SHOP REPAIRS, SMALL SPACE. Send for ILLUSTRATED PAMPHLET and other reading matter, with hundreds of enthusiastic letters from purchasers and engineers.

The Roberts Safety Water Tube Boiler Co.,

Works covering 1 2000 sq. ft. of ground at RED BANK, N. J.
18 Cortlandt Street, NEW YORK CITY.

MARINE AND INLAND INSURANCE.

ATLANTIC MUTUAL INSURANCE COMPANY,

(ORGANIZED 1842.) Office, 51 Wall Street, NEW YORK.

Insures against Marine and Inland Transportation Risks and will issue Policies making Loss Payable in England.
Assets over $10,000,000 for the Security of its Policies.

The profits of the Company revert to the assured, and are divided annually upon the premiums terminated during the year; thereby reducing the cost of insurance. For such dividends, certificates are issued bearing interest until ordered to be redeemed, in accordance with the charter.

J. D. JONES, Prest. W. H. H. MOORE, Vice-Prest. A. A. RAVEN, 2nd Vice-Prest. J. H. CHAPMAN, Secy.

CAPITAL $300,000.

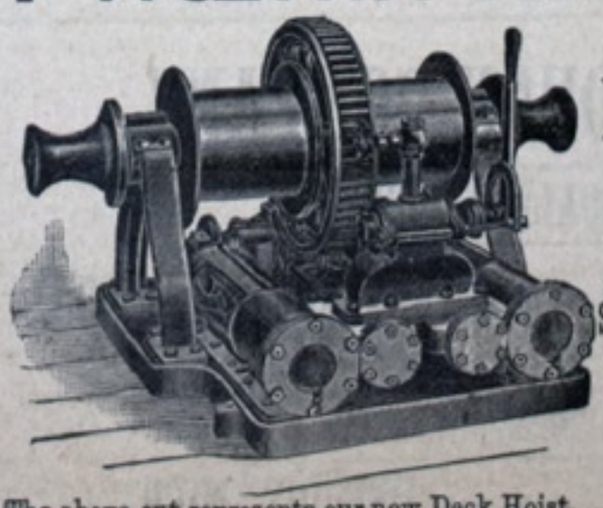
The Marine Bank Company,

Incorporated in 1891 under State Law. CLEVELAND, OHIO.
Successors to E. B. HALE & CO., established in 1852.

DIRECTORS:
W. H. BARRISS, President. H. C. RANNEY, Vice-President. W. B. HALE, Cashier.
C. E. BURKE. THOS. FITZPATRICK. THOS. H. WHITE. MARTYN BONNELL.

Would be pleased to meet or correspond with any one whose present Banking relations are not entirely satisfactory, or who, for any reason, propose to open a new account.
We promise to make every effort to make our Bank a safe, agreeable and profitable place to do business.

PHŒNIX IRON WORKS,



The above cut represents our new Deck Hoist.

MANUFACTURERS OF
Modern Marine Engines, Boilers, Etc.

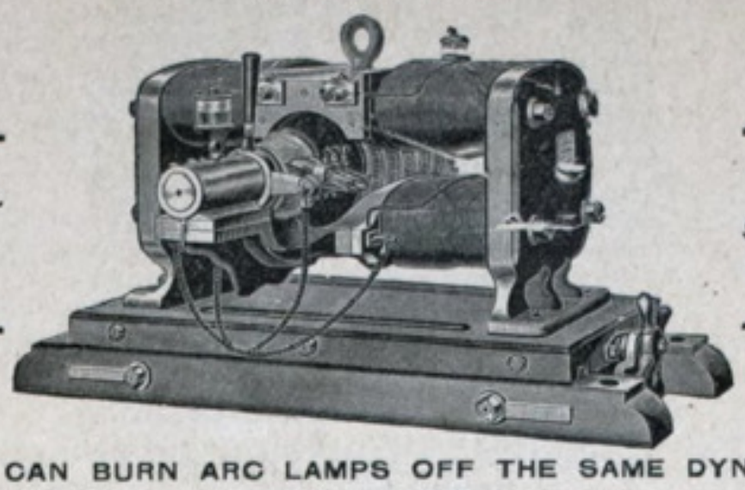
SPECIAL ATTENTION GIVEN TO REPAIRS.

TELEPHONES: { Office, 15. Residence, 192.
PORT HURON, MICH.

THE ONLY PERFECT DYNAMO FOR STEAM BOATS IS

THE FULLER DYNAMO

BECAUSE IT IS



THE SLOWEST SPEED IN THE WORLD.

NOISELESS AND NO VIBRATION.

PERFECTLY AUTOMATIC!
SO SIMPLE THAT ANY ENGINEER CAN RUN IT WITHOUT EXTRA CARE.

YOU CAN BURN ARC LAMPS OFF THE SAME DYNAMO.

BOATS EQUIPPED DURING THE PAST YEAR.

Freight Steamer, E. C. Pope, 250 lights.
Steam Yacht, Boneta, 50 lights.
Passenger Steamer, Soo City, 150 lights.
Passenger Ferry Boat, Sappho, 50 lights.
Passenger Steamer, Minnie M, 150 lights.
Passenger Ferry Boat, Victoria, 50 lights.

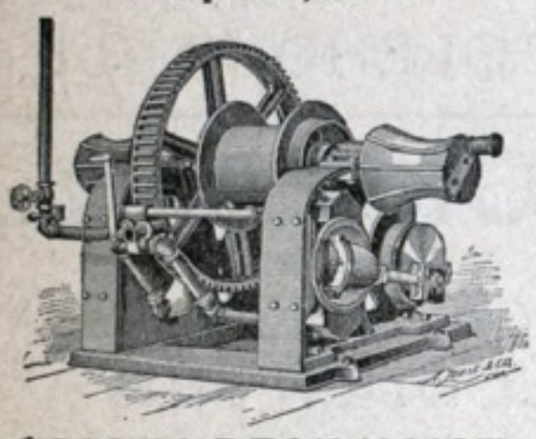
The two last plants have given the Detroit, Belle Isle and Windsor Ferry Co. such good satisfaction that we have closed a contract for equipping the ferry boats, Excelsior and Fortune.

Prompt attention to all Electrical Repair Work. Engine Signal Work a Specialty. Correspondence solicited, or we will be glad to send a representative to call upon you.

FONTAINE CROSSING CO., CORNER RUSSELL STREET AND THE BOULEVARD, DETROIT, MICHIGAN.

LAKE SHORE IRON WORKS

Marquette, Mich.



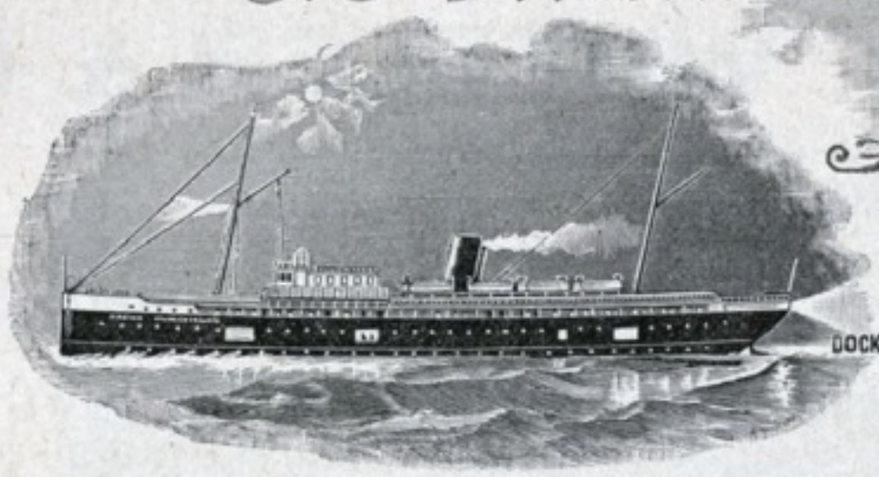
$360.00 DECK HOIST.

Stops, Starts and Reverses with one Lever.

Geared 6 to 1. 2 Cylinders, 3 in. by 6½ in.

C. S. Richardson Fueling Co.

COAL



DOCKS { FOOT OF NORTH MARKET ST. / 18TH STREET BRIDGE. / NORTH PIER. / ILLINOIS CENTRAL SLIP'S }

Office Foot of North Market St.

CHICAGO.

LOUIS K. GILLSON, PATENTS.

87 METROPOLITAN BUILDING,
Cor. Randolph & La Salle Sts. CHICAGO, ILL.
Free—24-page pamphlet, "Pointers from the Patent Laws."

P. M. CHURCH & CO.,

SAULT STE. MARIE, MICH.

SHIP CHANDLERY, HARDWARE, PAINTS, OILS, AND ALL CLASSES OF

VESSEL SUPPLIES.

Coppersmith Shop in connection.

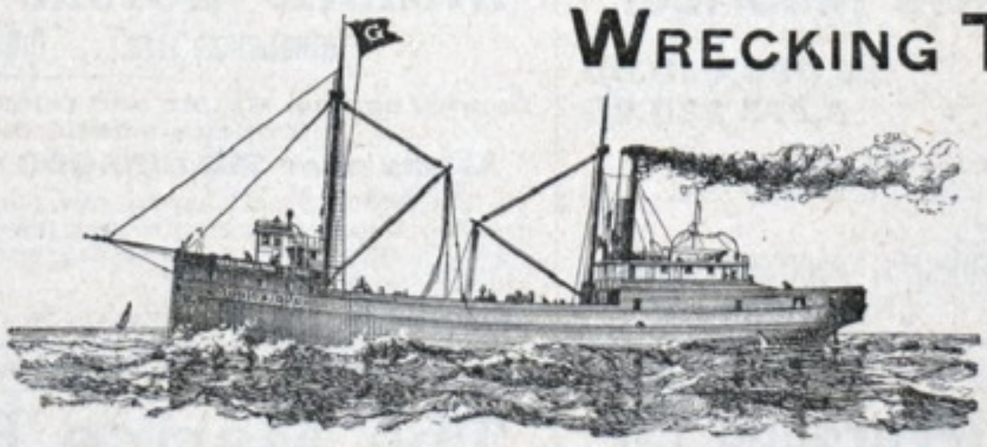
Corner Portage and Ashmun Sts.

TELEPHONES, - { OFFICE No. 7. / RESIDENCE No. 4.

S. B. GRUMMOND,

OWNER OF FIRST-CLASS TUGS FOR WRECKING, RAFT TOWING, Etc.

TUGS: MANISTIQUE, CRUSADER, M. SWAIN, CHAMPION, JOHN OWEN, WM. A. MOORE, GLADIATOR.



WRECKING TUG MANISTIQUE,

CAPT. FRANK H. DANGER,

STATIONED AT MACKINAW CITY.

With great power and speed, light draft, and can do her own lightering and is in fact the only complete Wrecker on fresh waters carrying Complete Wrecking Outfit on board, including New Pumps, Improved Horizontal Straight Base Hydraulic Jacks, 2 Derricks, Steam Hoists, Buckets, Sub-Marine Divers, New 10-12-14 inch Hawsers, 1,200 feet long.

OFFICES OPEN DAY AND NIGHT.

Branch Offices & Warehouses at PORT HURON & CHEBOYGAN, MICH.

PLENTY OF WRECKING MATERIAL AT ALL STATIONS NAMED.

SATISFACTION GUARANTEED.

General Office & Warehouse,

FOOT OF FIRST ST., DETROIT.

Garlock Packings.

Our Elastic Ring, Sectional, Spiral and Special Water Packings are the pioneers in this line. For Steam, Water, Ammonia, High Speed Work and all places where packings are used they excel. Try our Special water Packing, fully guaranteed for water end of pumps. See that our trade mark is on each package. Correspondence solicited.

PALMYRA, N. Y.
ROME, GA.
OMAHA, NEB.
PORTLAND, OR., 170 2d st

The Garlock Packing Company.

NEW YORK, 194 Water St.
CHICAGO, 94 Franklin St.
PHILADELPHIA, 22-24 N. 4th St.
PITTSBURG, 54 Fifth Ave.

PITTMANS & DEAN COMPANY,

STEAMER COALING DOCK.

ERIE MANSFIELD A SPECIALTY.

DOCK FOOT OF RIOPELLE STREET,

NEXT TO UPPER DRY DOCK, DETROIT, MICH.

W. H. ARTHUR PAINT CO.,

ASBESTOS PAINTS, OILS, BRUSHES, TAR, ETC.

VESSEL TRADE A SPECIALTY.

5 OHIO STREET AND 3 DOCK FRONT. FOOT OF MAIN ST., BUFFALO, N. Y.

MURRRAY & TREGURTHA, WEST FIRST STREET, FOOT OF E STREET, SOUTH BOSTON, MASS.

—BUILDERS OF—

HIGH SPEED SINGLE, COMPOUND and TRIPLE EXPANSION MARINE ENGINES.

TREGURTHA SAFETY YACHT BOILER, the best Yacht Boiler in the market.

SHAFTS, STERN BEARINGS, SMALL STEAM PUMPS.

HIGH SPEED PROPELLER WHEELS A SPECIALTY.